

THE AUTOMOBILE



THE most enjoyable season of the year for touring is close at hand, and thousands of people all over the country will start out for a week's or a month's vacation on the road. All those who toured last year will do so again—that goes without saying; and they will have gained from experience, more or less painful, much useful knowledge to smooth their way. Perhaps some of the novices may prefer to rough it the first time, and learn in the same school; but for the majority good advice will not come amiss, and will prove of value when heeded.

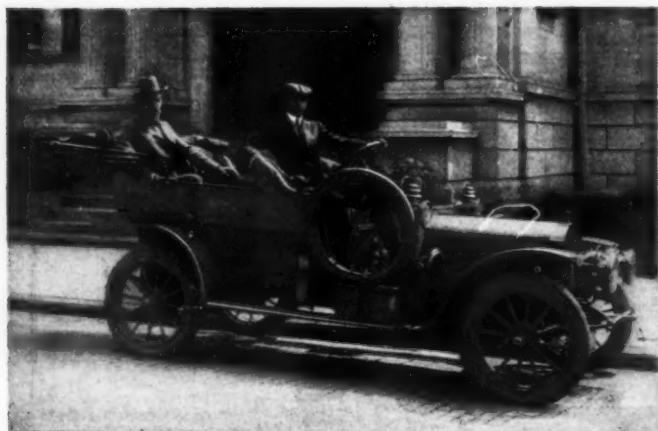
First of all requisites comes the automobile itself. A few years ago this might have been made the subject for many pages of wise counsel; but now almost any car of recent date and moderate size may be thoroughly depended upon. The only conditions are the size of the party and the length of the owner's pocketbook. The automobile being selected, we may consider its adaptation to the needs of its passengers; and now, whatever else you may leave behind, never, and thrice never, forget the Cape cart top. It is as necessary for touring as the seats or the floor boards. Folded down, it keeps off the dust; raised, it protects the party from a too ardent sun; with the storm curtains attached, it affords shelter from the most violent rain. Useful also, but not absolutely necessary, are the seat covers often seen; they are cooler and cleaner than the bare leather upholstery. As to glass fronts, opinions differ; it is largely a matter of personal choice. Many people think the sensation of the fresh wind blowing upon one's face is the most delightful of all automobiling. At other times the front is most serviceable.

The average beginner finds the baggage question perhaps the most puzzling of all. It is true that on ninety-nine cars out of

a hundred no provision whatever is made for baggage; and on the hundredth that provision usually consists of an angle-iron contraption hung on behind, like a miniature fire-escape. It is also true that most people make the mistake of trying to carry too much, burdening themselves with so many unnecessary things.

One of the greatest joys of automobiling is the opportunity it affords of getting gloriously dirty. As a general rule, the more nearly a party resembles a gang of hoboes, the more they are enjoying themselves. When a man goes on a fishing or camping trip, he packs his old trousers, a flannel shirt, and a much battered hat; but when the same man prepares for his first auto trip, he wants all sorts of fancy dusters, caps, gauntlets and leggings. Caps blow off, and the dusters, gauntlets, and leggings are hot, hotter, and hottest. In reality, the only addition necessary to the fishing or camping equipment is a pair of goggles. Women usually prefer a small, stiff hat, firmly pinned and tied down with a stout veil, to act as a combination hair retainer.

When the would-be tourist has reduced his baggage to the smallest possible dimensions, he should study his car to find where it may be most safely and conveniently placed. Usually the space under the rear seat is left vacant and is denominated the baggage compartment; access may be had to it by lifting the seat cushion or by letting down a door behind. However, these openings are often several inches smaller each way than the "compartment," so that all the available space cannot be utilized. In this case the construction of the body should be studied. It may be found possible to remove the rear door and enlarge the opening; a specially shaped hamper may then be put in, projecting a foot or more out on the "fire-escape." A tarpaulin should



John W. Kern, Democratic Vice-Presidential Candidate, in a Haynes.

be lashed over the projecting end, and the whole firmly strapped in place. If there is ample space in the tonneau between the front and rear seats, some baggage may be carried inside. The women of the party may be more comfortable with a suit-case or two arranged as a foot-rest. All baggage carried in this way should be securely strapped down—and it is often surprising how much strapping that means. On other cars the foot room is so limited that any encumbrances become a positive torture. As a last resort, boxes may be carried on the running boards.

Maps and route-books—including the "Blue Books"—are so plentiful and—usually—so good, that no trouble will be experienced on that score. Small towns often confuse the tourist, as their streets are rarely signposted, and the directions of the natives are never very clear. Ofttimes a boy may be found who, for a dime and a seat on the running board, will be only too glad to personally conduct the party through and set them on the right road at the other side. On a cloudy day when the sun cannot be seen a compass is invaluable; knowledge of the general direction to be followed will enable one to choose the right way at an unposted fork or cross-roads. Care should be taken, however, to find whether the compass needle is deflected by the iron and steel mechanism of the car. When putting up at a hotel, or leaving the car at a garage, always ask the price beforehand; otherwise the morning may bring disenchantment.

Accessories Are Many in Number.

The mechanical equipment and accessories of the car form the broadest part of the subject, and, like the car itself, depend mainly on the length of the owner's pocketbook. Shock absorbers improve the riding qualities of almost every automobile, but are expensive for those who must count every dollar. In their absence, four good stout straps, arranged as on a buggy to limit the downward movement of the axles, will sometimes answer

fairly well. The speedometer is a fitting which adds interest, though it won't help much if one falls into a police trap, and, so far from being a check on speeding, it is often a temptation. On the other hand, if a route-book is used, some kind of an odometer is almost a necessity. The horn should be looked to before starting, as there is nothing more irritating or, oftentimes, more dangerous than a hooter that refuses to hoot.

Carry a Couple of Spare Shoes.

On a tour of any length it is always advisable to carry a spare tire shoe or two if the front and rear tires are of different sizes. How to carry the shoe, however, is often a puzzling question. Many people have brackets to hold them outside the levers at the driver's seat; but that seems a very crude arrangement. The levers alone never completely block up that side, and it is very convenient for the driver to be able to get in and out there, without having to climb over the passenger on the other front seat. If the luggage carried on the rear of the car does not project too far beyond the back of the seat, the shoe may be



Master Warren Alexander, a Three-Year Pilot of Rahway, N. J.

strapped on there; or it may be fastened on the back of the front seat, inside the tonneau. It should always be fitted with a water-proof case; a round, flat leather box may be obtained to fit inside it to carry spare inner tubes and other small articles. A robust jack and a strong-lunged pump should not be forgotten; do not be satisfied with any old cheap bicycle affair.

Among many other small conveniences may be mentioned a collapsible water bucket; a graduated stick to measure the gasoline in the tank (if no gauge is provided); chamois for straining gasoline; chains for the rear tires; a couple of manchons, or stout leather patches with lacings for binding over weak spots of the tires; an ammeter or voltmeter, according to whether the car has dry batteries or storage batteries for ignition; an oil gun that can be worked with one hand; a sharp-pointed tool for cleaning acetylene burners, and small scissors for trimming the oil lamps. Insulating tape and wire often come in handy, and a package of chewing gum will be found a true blessing in disguise in case the gasoline piping springs a leak. Whether a man owns a 60-horsepower six-cylinder or an ancient one-lunger, let him bring it forth and spend his vacation a wanderer on the highways; no man can tell the pleasures that await him there until he has tried it for himself.



In Front of the Hotel Del Monte, Del Monte, Cal., During the Recent Run of Mitchell Car Owners.



By BLANCHE McMANUS.

AUTOMOBILE touring for women is not all fancy clothes and veils. The most luxurious limousine ever turned out, with its soft cushions and plate glass windows, will not keep one wholly free from dust. The best of chauffeurs will leave trickles of gummy oil in unexpected places, to be swept by dainty gowns, and high-heeled shoes are not ideal footwear for those unhappy days when one tramps through the dust or mud to the nearest village, while a farmer's plough horse drags a stubborn machine to shelter, and a mechanic, who more than likely is nothing but the local locksmith, does his best at tinkering.

Automobile touring, in its best phase, is a glorified vagabondage, and to be thoroughly enjoyed and appreciated must be approached in something of the spirit of the rollicking, singing vagabonds of old. The luxurious superfluities and excrescences that handicap modern travel should be lopped off and simplicity should ever be the order of one's going. The open road, the open mind, and the open automobile are the three things needful for the ideal tour.

Map reading is an accomplishment especially recommended to the woman of the automobile party, for an intelligent comprehension of the map of the region through which one is momentarily passing, and some display of feminine tact will do much to smooth the way for the man at the wheel in a strange land, and save him from endangering the lives of the whole party by trying to read as he runs; besides, this helps the women to "star" the beauty spots in her own mind, as does Baedeker in his fine-print pages. Many otherwise intelligent persons never will acquire the ability to properly scan a road map.

Couple with intelligent map study the ability to decipher road signs at top speed. It is thus that a woman can make herself a very useful adjunct to an automobile party, instead of being considered merely as an ornamental appendage, whom man wonders what he will do with when the automobile mysteriously stalls itself by the wayside, as all automobiles are occasionally likely to do sooner or later.

For real pleasureable touring, by all means the open automobile.

Why one should want to ride in a closed-in glass box reminiscent of a hearse, and about as airy, is a mystery to those who really love the open road. A Continental corridor railway train is preferable, for it has at least more room in which to move about. As for a cloth or leather hood—what in England they call a "Cape hood" and in France a "Capote Americaine"—in Germany, Heaven only knows what—it, too, blots out the landscape to no inconsiderable extent, and likewise cuts off the free air and produces drafts.

But when we come to consider the matter, why should one be afraid of fresh air? It's the biggest blessing for which the automobile is responsible. Let the wind swish and swirl around you. You may not like it at first, but when once you have the hat that just suits your head, neither too small nor too large, and have taken the right reef in your veil, you will like it the more. Fresh air will do away with the *migraines* more effectually than any number of German "cures." And after you are become used to it you will not even fear bad

weather. There is a certain exhilaration, even, in riding in the rain; there are many excellent rain-proof clothes now to keep one dry, and the sting of the rain drops on the face will do one's complexion more good than a score of "Beauty Doctors" and all their lotions and washes.

With an open automobile there is always the dust to be counted on, to be sure, but the automobile has introduced hot water into general use throughout Continental Europe, and every little country hotel furnishes it to automobilists as a matter of course. Sometimes it is offered voluntarily—always for the asking. If the jug in which it is brought is often very small, there is plenty more water to supplement it which will be brought by a willing *garçon* or *bonne*.

If, as has been said, the majority of automobiles are bought at the instigation of a woman, let her pass by the overpowering shut-in *carrosserie* of what is popularly called a "real touring car" (?), with its meretricious charms only suitable for the boudoir, and entirely out of place on the open road.

Of what use in an automobile is an electric arrangement for heating curling tongs, a folding tea table, or a flower holder? If she's doing *real touring*, the woman automobilist will have no time nor appreciation for this sort of thing.

Instead of concerning herself as to whether the color of the cushions suits her complexion, the woman whose husband or father is about to buy an automobile should concern herself more with the efficiency and design of the motor of 10, 20, or 30 horsepower which has caught her fancy. A motor of *marque*, suited to the work which is to be put before it, is of more importance than much gaudy upholstery, and even a superficial acquaintance with its "greasy innards" may enable the woman in the case to be of use to the driver in helping adjust a refractory nut or search out a short circuit when the usually docile man at the wheel becomes a man of wrath.

With the man of the party at the wheel, the exercise and responsibility of their own special character will be as good for him as will be early rising for you. Women can hardly hope, as yet, to compete with mere man for the honors of becoming a good driver and competent conductor of an automobile, which, after all, is something more than merely steering the thing. It is something of an undertaking keeping an automobile in running trim day after day for perhaps a number of weeks, with never the necessity of stopping for repairs. It, too, is a very different thing from "driving" oneself in that kind of a machine where you have only to "turn something," to "push something," or to "pull something," in order to have an airing in the park or a run out to the golf links.

Too Much Baggage Is a Nuisance.

As for baggage en tour: a suit case for each person is all that should be taken. Don't be beguiled into believing that you cannot do without that trunk furnished with all home comforts. The initial idea when planning a tour is to get a change from home comforts—and discomforts—to turn new pages in one's book of experience, and though often they may not be as attractive as those of chapters gone before, still the thing is to turn them all—or as many as one can.

It is hard for the average woman to realize that space on an automobile is quite as valuable for the articles of its own wardrobe as for those uncrushable components of hers. There are inner tubes and envelopes for replacement to be carried, perhaps extra supplies of gasoline and oil, and a whole kit of tools, and things which are never required until one abandons his usual base of supplies. For this reason alone the touring automobile should be as free as possible from alien trappings.

Trunks are to a great extent receptacles for carrying what one does not want, and they have no place on an automobile. We all recall the things that we have many times "packed"—"that we could not possibly do without"—which lay undisturbed in the bottom of our trunk throughout a long tour. The writer remembers once having carried a large trunk in the tonneau of an automobile—it was to head off two grafters—as well as the usual handbags for a month across France, and it was never once opened. Since then hand luggage only has been our rule.

A suit case can be made to carry all that a woman really needs for any tour short of a month; at the end of that time she will usually be quite ready to repose a while, and then it will be a simple matter to connect with her heavy luggage.

A dress of washable silk, three or four blouses, a "sweater," a soft cap, a pair of shoes, and a couple of changes of under-clothing, some stocks, and as many handkerchiefs as can be stuffed into the corners, with the necessary simple toilet accessories, can be packed judiciously into the suit case of convention with room to spare.

Don't wear a pet dress. You will be sorry if you do when you discover that the oil can has been mysteriously left beneath your feet and naturally overturned itself. Either this, or you will get a *tache* of gummy grease while you were accommodatingly "handling something," that probably you should have let alone.

One needs fairly warm clothing even for a summer tour. A tolerably thick cloth suit—dark gray or brown in color—made short is quite the best thing for the purpose. Discard petticoats for bloomers of dark silk and you will double your comfort. A cap or *casquette* of heavy corded silk, with a soft stitched and sufficiently ample brim, which can be adjusted to suit the wearer's taste, the kind that French women en auto invariably wear, is by far the best headgear. Comfortable walking shoes should cover one's feet, the "pumps" meanwhile reposing in the suit case. Do away with "Merry Widow" hats, or you will find yourself in the same class with the man whose chauffeur was obliged to pull up about once in every three miles to go back and capture his employer's broad-brimmed "Stetson" which he insisted upon wearing on all occasions.

Clothing Appropriate to the Automobile.

The most appropriate and beautiful costume of one's predilection becomes commonplace and tawdry when seen out of its proper time and place, and very few varieties are suitable to automobile touring. Nothing is so becoming as a costume that is appropriate to the occasion. The man or woman automobilist of to-day is not the hideously costumed creature of a few seasons ago.

As to veils, they are a matter of individual preference. A silk hood, after all, is more protection for the hair against dust than many veils, and answers better in every way. Do without a face veil, too; wear a pair of good goggles, neither too large nor too small, and, above all, not too heavy, and preferably of a slight smoky glass. Goggles, even, can be done away with a good part of the time, when the wind is not strong and when the dust is not swirling about. This is another one of the benefits of fresh air; a good way of strengthening one's eyes.

One will get sunburned riding in an open automobile, there is no doubt about that, and wind-tanned, perhaps even freckled, and perhaps even you may "peel," but all these things are what many women pay money to acquire in other ways at some pseudo-fashionable resort, and anyway, if any or all of these things come to you, they will only be the means of convincing your friends that you have had a good time, and make them long for such on their own account.

Wear always a dust cloak that is also rain proof, with a hood attached which can be pulled over the head in case of a hard rain. If you cannot buy such a one when you come to get your outfit together, have it made. In the British Isles one needs a warm coat at any season of the year, and it will be found prudent to have one by one anywhere, for the European climate is changeable enough to make frequent protection necessary.

Have deep, mannish pockets in your coat; into one of them a folding kodak can be slipped. Wrist bags should be discarded; carry nothing in your hands; one does not want to be obliged to spend time that might otherwise be profitably employed hunting for objects on the floor boards of an automobile that ought never to have been there.

Such a wardrobe as outlined above, or some corresponding amount of wearing apparel, not more, is all that is really necessary for one's well-being and comfort en tour.

If the laundry problem becomes insistent, consult the map and pick out an interesting place at which to stay over twenty-four hours. Washing can be done anywhere for the traveler in a few hours if necessary, and if judiciously arranged for betimes.

Beware of Unnecessaries.

Don't lay in a stock of soap and tooth powder, etc., as if you were about to take a journey through wildest Africa. Most tourists, and women tourists in particular, pack their trunks and bags as if it were not possible to purchase anything en route. Good, well-stocked shops are plentiful in all towns along the touring roads, and there are few little villages that have not something which corresponds to a "general store" where, as they say in England, one can, on a pinch most pressing, add to the necessities of their paraphernalia.

Automobiling is a pretty good cure for most ills. Rushing air, unwanted exercise (and you get more of this on an automobile than is commonly supposed) and an occupied mind will often do away with the need for one's favorite remedies.

Men, as a class, are born travelers; women, as a class, have to acquire the art, and in many instances the results do not seem to have justified the exertion necessary.

If "three generations are needed to make a gentleman," three tours—and often more—are needed to make a good traveler of the average woman. This is not saying that she lacks capacity for enjoyment or delicacy of perception. It is only that she is less adaptable to change than man. The pleasurable distractions of new scenes are, for her, so often marred and distorted by the unusual, and, not infrequently, uncomfortable conditions under which they must be viewed. To be cut off from the little conveniences and comforts of their daily lives, as must often happen en tour, is a source of real or fancied hardship to most women travelers, and this is undoubtedly one of the reasons why so many of them prefer to do their touring abroad in the environs of the great capitals and in close proximity to the big shops rather than brave what seems to them the many deprivations and discontents of the open road. That forcing house of modern luxury, the big transatlantic liner, too, is a bad preparation for bridging the differences which do exist between American and European ideas of comfort. It but helps to intensify the shocks which the average feminine automobilist gets when she first starts out on her search for the picturesque along the highways and byways. The best preparation for touring is to cultivate the habit of the open mind; accommodate yourself to your surroundings rather than try and change them. Women are too prone to think that their way is only smoothed for them by the lavish expenditure of money on the part of their male relatives. Something besides money talks, fortunately, when touring in France. Little politenesses count for much among the older nations, often for quite as much as the indiscriminate throwing around of coin, though it may be difficult to convince some of this. The average person abroad who caters for travelers is not nearly so grasping, if approached in the right way, as is commonly supposed. So scatter a few smiles and appreciative words along with your louis, francs, and sous, and those who follow after will fare the better.



PARIS, Aug. 10.—It was while sitting at the terrace of a popular Parisian café, engaged in that essentially French triple occupation of sipping, gazing, and idly chatting, that the realization came that European touring had undergone a serious change during the past two years. Instinctively, as the result of long practice, the writer's eye was following the interminable procession of taxicabs, touring cars, heavy limousines, and dainty town vehicles that almost monopolize the Rue Royale during the afternoon. Suddenly the file of cars from French, Italian, and German factories was broken by the appearance of a Packard, a 1907 touring model, containing a party of Americans, evidently touring France. Five minutes later a Pierce had gone by, and almost on its heels was an old gentleman driving a White steamer. Before the drink was finished a Peerless touring car and a little Ford runabout in the hands of a demonstrator had skimmed along in the dense stream of traffic, making five American cars in a period of a quarter of an hour.

Even so recently as two seasons ago it would have been impossible to have seen in any part of Paris at the commencement of the touring season such a number of American cars within such a short period. As there has been practically no change in the selling situation, Ford having come into the field, and but one other maker having gone out, the obvious conclusion was that Americans are touring Europe in their own cars more extensively than proved to be the case but twenty-four months ago.

Except by getting figures from all the transportation companies it would be impossible to ascertain exactly how many American tourists annually visit Europe *en automobile*. But the interesting phase of the matter is that private owners are now extensively advertising the home construction by bringing over cars from many of the best American factories. It was the invariable rule but a short time ago that American automobilists in Europe should use cars supplied from the crack factories of France and Germany. Probably the number of multi-millionaires who buy a new foreign car immediately on arriving from the States, tour with it for several months in Europe, and either sell it or ship it over to America at the end of the trip, has not seriously diminished.

A new class, however, has been added to this floating population: Americans of rather more moderate means who, owning a good, serviceable touring car, take it with them on their trip abroad, tour with as much comfort and reliability as their coun-

trymen mounted on the foreign article, and return home delighted with their visit and their machine. A casual visit to one of the larger Parisian garages, the "American" in the Avenue Montaigne, found seven American cars one morning not long ago. The same day Fournier's garage had three cars manufactured in the States, and at the Automobile Club of France garage two were in temporary storage. Naturally the number fluctuates considerably, for foreign automobilists are essentially birds of passage, but some idea of the number of American cars passing through Paris may be gathered from the fact that the records of the "American" garage showed a total of 60 for last season, the number being made up of 35 Packards, the rest being largely Pierce and Peerless cars. The Packard agent in Paris was last year in touch with close upon 200 different parties touring Europe in the well-known "Thirty" from Detroit, and had had communication from forty parties up to the middle of May of the present year. Beside a very large number pass through Europe without ever troubling the foreign representative of the car.

An enormous impetus has been given to touring in Continental Europe by the arrangements made by English, American, and French associations to break down or, at any rate, to simplify the formalities which governments and nature have put in the way of free intercourse. Such French associations as the Touring Club of France, the Association Générale Automobile, and the Automobile Club of France are constantly striving to improve conditions, not only for their own members but with a view to attracting visitors from abroad. There is a lot of detail work, however, which even these admirable bodies cannot attend to, and the gap has been filled by the work of the English associations, and, more recently, by the American Automobile Association. As is now generally well known, every member of the A. A. A. touring in France is entitled to the services of Victor Breyer, the foreign delegate installed at 4 bis Rue Descombes, Paris. There are probably few men in France who have been more closely connected with the sport and industry on this side of the Atlantic or who are so well fitted to assist American visitors with advice on touring, the hiring of cars, the engagement of chauffeurs, or the formalities which are the necessary attendants of a visit to a foreign country.

American visitors largely profit by the excellent foreign touring branches of the various English associations. The Automobile Association, the Motor Union, the



Victor Breyer, A. A. A. Representative.



H. D. Wilson, Packard Agent in Paris.

Royal Automobile Club, and the British branch of the Association Générale Automobile, at 166 Piccadilly, London, have all studied the European touring question so thoroughly that their members can enter continental Europe with about as little formality as an automobilist crosses from Manhattan Island to the Jersey shore. Samuel A. Miles, when touring France with a Pierce car, declared that the Automobile Association in London fitted him out so thoroughly before leaving for France that he had not even to attend to his own gasoline tank. At the present time an arrangement is under consideration by which the members of the A. A. A. can have full benefit of the Automobile Association touring bureau, not only in London but in all such ports as Havre, Cherbourg, Boulogne, Bordeaux, Marseilles, Dover, Folkstone, Newhaven, Southampton, Plymouth, etc.

By the aid of these various associations all the formalities such as registration of car, obtaining of driving licenses, payment of custom duties, can be settled before leaving England. On arrival at the foreign port practically all that remains to be done is to attach the license pads, have the triptyque signed by the customs officer and drive away. Further, officers of the Automobile Association, the Association Générale Automobile and the Motor Union are in attendance at the French ports.

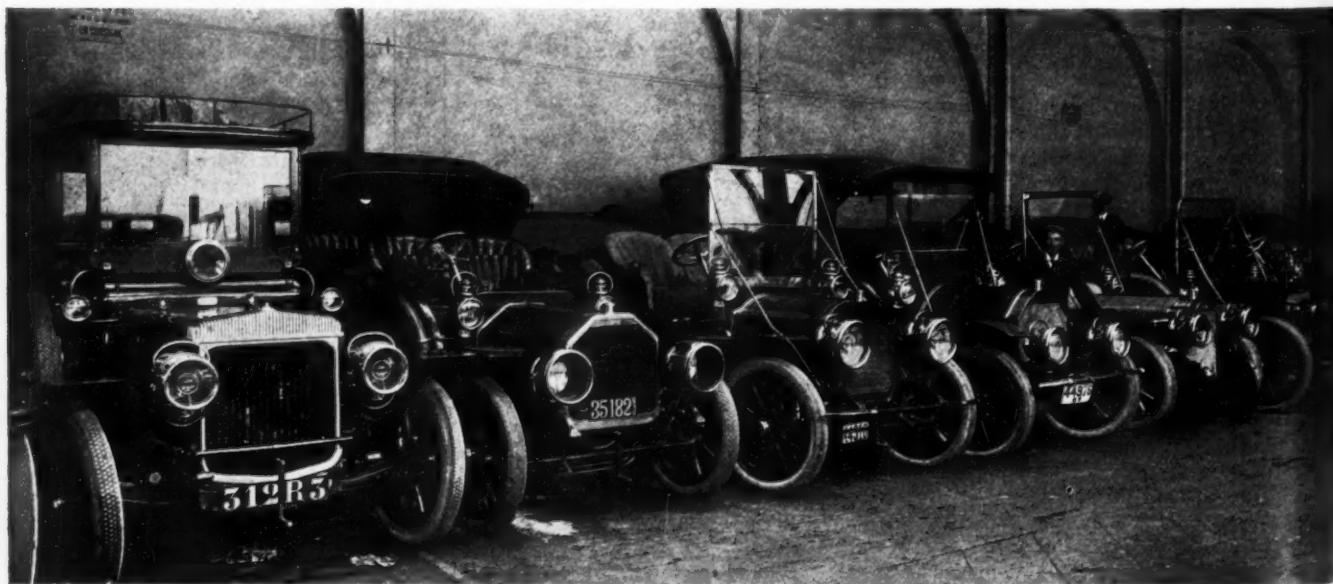
Though in the present perfected condition of the automobile a machine can undertake a foreign voyage with every hope of being independent of the factory or repairmen, occasions do arrive either by reason of accident or otherwise, when it is convenient to obtain spares without sending over the Atlantic for

them. It is for this reason that the Packard Motor Car Company and the George N. Pierce Company of Buffalo have each opened a Paris depot for the convenience of their customers touring Europe. At 13 Cité de Pusy, in the Boulevard Periere, Paris, H. D. Wilson, the Packard agent, maintains practically a complete car in parts and is able to furnish any spare that may be required at a moment's notice. During the year that the office has been in operation Mr. Wilson declares that he has not sold enough parts to pay for lighting, a result which amply testifies to the reliability and good workmanship of the Packard.

The office is maintained more as a convenience to customers, for, however serious a road accident they may be involved in, there would be no necessity to wait for parts coming from the home factory. The owner of a Packard touring abroad need never fear being stranded for want of some special part unknown to Europe. A large amount of useful work is also done in planning tours, advising on methods of shipment, custom formalities, and touring regulations.

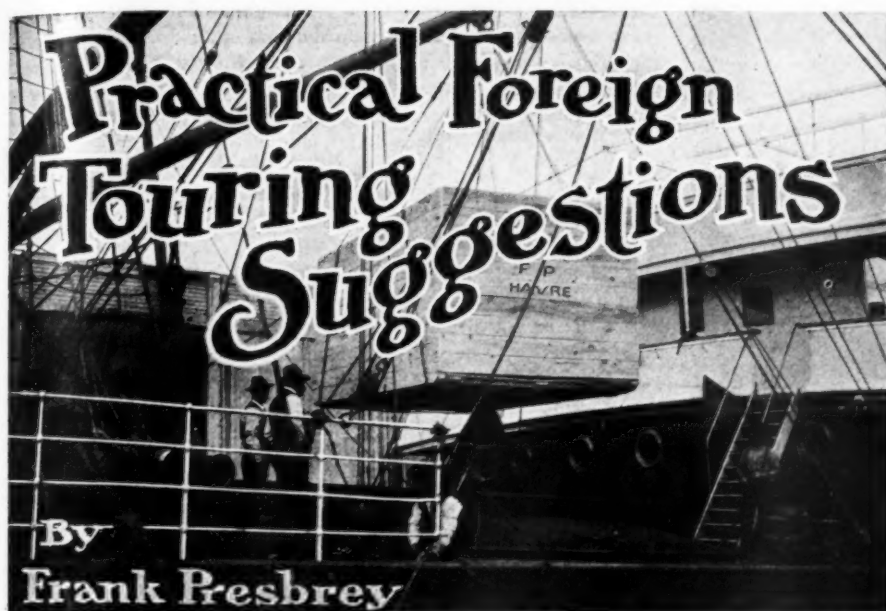
In October, 1906, the George N. Pierce Company opened its Paris touring bureau and spare parts depot at 22 Avenue de la Grande Armée, in charge of N. S. Goodsill. According to the European representative 50 Pierce Great Arrow cars were dealt with during the season of 1907. The number during the present season has been several times greater. A complete stock of parts is maintained for all models, arrangements being such that spares can be sent off at a moment's notice on receipt of telegraphic advice. Another matter of importance to Pierce owners is the recent establishment of a Paris branch by the Goodrich Tire Company, located in the Rue Brunel, a few yards from the car depot. As all Pierce cars are shod with Goodrich shoes, the arrangement is a convenient one, for these tires exactly fit the rims, and give better satisfaction than the French tires made in metric sizes only.

An idea of the advantage to be gained by the use of the tourist's own car can be had from figures supplied by the Pierce agent. A touring car of the size of the Pierce Great Arrow 45-horsepower would cost in France a rental of \$30 to \$40 per day, even when taken by the month. In addition to this the customer must pay all road expenses: fuel, garage charges, tires, maintenance of chauffeur, and an average tip of \$2 per day to the latter. All fear of being stranded for lack of some minor part being removed through these foreign depots, it is no wonder that the number of Americans touring with their own cars is largely on the increase. It is expected that the total number of Pierce cars to visit France this year will be over a hundred.



A Snap Shot in a Popular Parisian Garage Early in May of the Present Year.

The first six cars are owned by foreign tourists, the makers being English Daimler, Peerless, Packard, Pierce, Thomas and Fiat. Note the New Jersey tag on Peerless and the New York license number on the Pierce.



Hoisting the Locomobile Aboard the French Liner, en Route for Havre.

IN taking one's own car to Europe there are few annoyances, but the satisfaction in knowing just what you can count on is more than compensation. In the first place, no apologies are necessary when you take an American car. A few years ago the French manufacturers were far ahead of us in construction, style, finish, durability of parts, and dependability. But a few years to an American manufacturer are as a generation to those of other nations. We make progress rapidly, and to-day an American automobile of the best make can be taken to Europe with every confidence that it will stand up to the work just as satisfactorily as the best foreign car.

Those who are contemplating the trip and expect to take over their own cars will find the following suggestions valuable, and the information correct, as far as it goes.

Unless the owner intends to drive the car himself it is best to take over with him his own chauffeur. He can be sent over in the second cabin on the same steamer with the car. If the owner is to do the driving, it is advisable to secure in each country a mechanic who can do the necessary dirty work on the car. But my advice is to take your own chauffeur. It is cheaper in the long run and far more satisfactory. The average foreign chauffeur is indifferent and foolhardy, and, with the French particularly, determined to "burn up" the roads, regardless of your instructions or desires. I met a friend in Tours who had employed a French chauffeur and he told me that "he (my friend) had died a dozen times during the past month" from sheer fright, and that, try as hard as he might, he could not cajole, order, or compel his chauffeur to drive at anything but a break-neck pace at every possible opportunity.

It is important to provide a description of your car, translated into French, if you are going to France or Italy, and into German if you are going into Germany, giving the maker's name, value and style of car, horsepower, number of cylinders and size, wheelbase, number of motor, factory number of car, motor power, weight in pounds and kilos, color, and equipment—that is horns, lamps, etc. This will save time and trouble in passing the customs house formalities. Incidentally it may be remarked that acetylene lamps are prohibited in cities and towns in France. Two side lights are required: the right, white, and the left, green; also rear lamps showing numbers.

Affix a small brass plate to the body of the car upon which is engraved the owner's name, his city and State, and "U. S. A."

Have extra heavy brakes put on the car, unless it is already

well-equipped, and, while not necessary, it is advisable to add strong sprags to hold the car should it start to back on a hill. It is well to take with you two or three sets of Weed's chain grips.

If you take over an American car, have its maker pack for you a box containing a duplicate of every essential part, including brakes, which you are likely to have to replace, and which could not readily be made in a repair shop abroad. This box can be packed under your car in the crate and fastened to the bottom of the crate. Leave these parts at some central point from which anything you need can be sent you quickly. Arrange with the manufacturer to be credited after your return with all parts not needed.

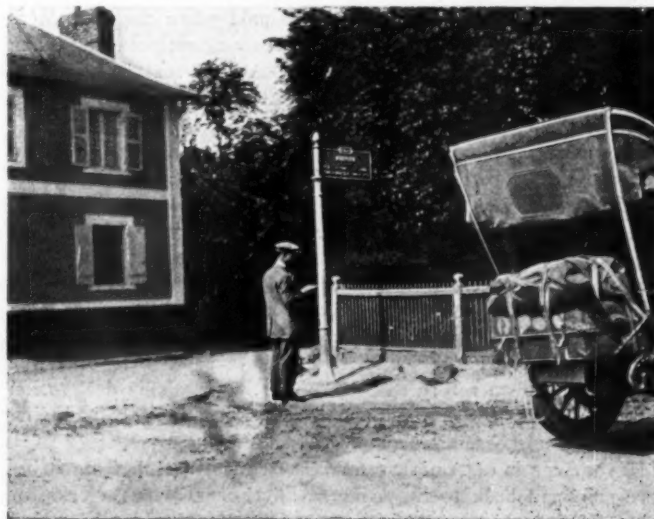
Procure five small photographs (size 7-8 by 1 1-4 inches) of chauffeur and yourself if you expect to drive the car, for affixing to licenses in countries other than Great Britain.

Arrange with some foreign shipper—there are several in New York City and

Boston—for the shipment of your car. They will take entire charge and you have nothing to do but to turn it over to them and they will have their packer make the crate for it. The charge for a heavy crate, put together with bolts so that it can be taken apart in sections and held for use in returning the car to America, is \$50 for the ordinary touring body and \$60 for a limousine or other closed type of automobile.

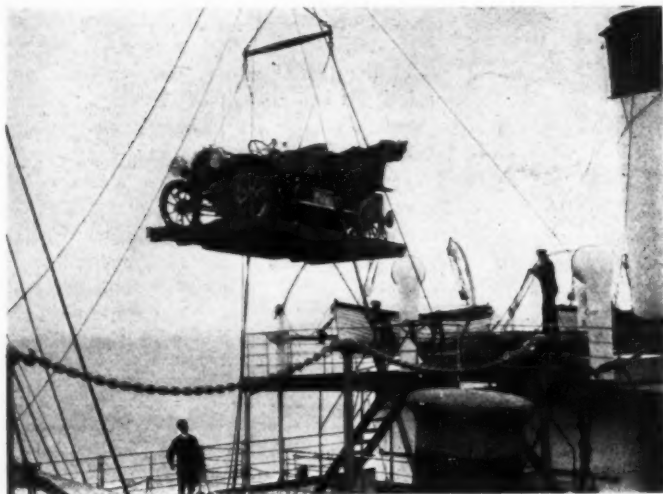
The charge for trucking the packed car to the ship is \$10; charge for derrick used in loading on this side \$12 (no charge for loading is made on cargo boats on crates weighing less than 4,400 pounds), and unloading and dock fees on the other side \$10 to \$15. To these amounts there is to be added the cost of freight and a charge of \$10 made by the shippers for their services. The freight charge varies, of course, according to the port of shipment and character of ship on which the car is sent, whether express or cargo steamer.

It is advisable to make sure that the boat on which your car is to be shipped has hatchways sufficiently large so that the crate may be put into the hold and raised out of it without tilting. Be sure you have a marine insurance policy covering your car in transit. The shipper will procure this for you; and also have him turn over to you for use with the custom officials upon the return of your car the original shipping manifest from



French Signboards Are Numerous and Informing.

The information contained in this article is taken from "Motoring Abroad," written by Frank Presbrey, and published by the Outing Publishing Company, New York City.



When One Crosses from France to Great Britain.

America to Europe. This manifest should describe the car fully, factory number, date of manufacture, maker's name, etc.

If you are going to France turn over to your shippers two or three weeks in advance a typewritten copy of the description of your car, retaining a copy yourself, and five small photographs of whoever is going to drive; a "Driving Certificate" must be procured for each from the French authorities. Your shipper will arrange to secure the certificates as well as the necessary "Circulation Permit," which corresponds to our State license. The shipper's representative at Havre will have the necessary official at hand when the car is unpacked and ready to be turned over so that the examination of the driver to determine his ability may be had without delay. This examination generally consists in taking the official around a block or two, the passing of a few salutations, and the judicious extending of a tip of from five to ten francs.

The shipper will also attend to the paying of the customs, the amount being placed in his hands for the purpose at the time of shipment. The average customs deposit in France amounts to about \$175 on a touring car and \$200 on a limousine. The amount is figured upon weight and the entire sum is returned at the port from which the car is shipped out of the country, if shipment is made within one year. To secure this refund it is absolutely necessary to present the customs receipt issued by the officials at the port of entry, therefore do not lose it.

If you enter France from England, arrange all the details of customs, licenses, etc., through the Motor Union of England, reference to which is made elsewhere. This will save much trouble and annoyance and a great deal of time.

The customs duty in Italy must be paid when the car enters the country. A receipt is given and the amount returned when the car is taken out of the country. A lead seal is affixed to the car and must not be disturbed. The average duty is about \$120 for a car of the touring type.

In entering England no duty is charged and the freight to England is less than to France. The three chief English ports are Liverpool, London (docks at Tilbury, eighteen miles from London), and Southampton. The preference lies with the latter two.

If you have taken over an American car be sure, before returning, to go to the United States Consul at the port from which you are to ship and make a declaration before him regarding the car. This is essential to facilitate passage through the customs house on return to the United States. This declaration should contain the material facts regarding the car, including its factory number, motor number, maker's name, etc.

If your car is of American make you must detach from it before shipment back to this country any horns, sirens, clocks, or other fixtures you may have purchased abroad, and ship them separately. The customs officials do not pay any attention to

foreign tires which are on the car if they have been used to a reasonable extent, nor do they demand duty for minor necessary repairs up to 10 per cent. of the original cost of the car.

It is essential to take a passport with you. This may be procured readily from the State Department at Washington upon payment of a fee of one dollar, and in case of any legal proceedings or an accident abroad it is important to have one.

Bear in mind while touring abroad that foreigners attach much more importance than do Americans to politeness, and when you are in Rome do as the Romans do. A pleasant smile and an agreeable manner go farther in most foreign countries than a tip. And never lose your temper.

If you are not already a member of the American Automobile Association, or some well established automobile club, join before you go abroad. The fee for joining the American Automobile Association, whose offices are at 437 Fifth avenue, New York, is only \$2. Application should be made to the secretary of the association, and this can be done in person or by mail.

It is also essential that you should join the Touring Club de France. This organization has over 100,000 members and is very powerful, being under the direct patronage of the French Government, and having a board of governors composed of many distinguished men. The wearing of the club button on your cap insures attention anywhere in France. It costs but six francs (\$1.20) to become a member and many Americans are already on the club's roll. A simple application for membership made to the club at 65 Avenue de la Grand Armée, Paris, is all that is necessary, except the payment of six francs (\$1.20), with an additional charge of 50 centimes (10 cents) for postage, or \$1.30 in all. The club issues a year book containing a list of 3,000 selected hotels, at which all members, upon showing their card, secure a reduction of from 5 per cent. to 10 per cent. in their bill (a considerable item when one is touring). This item alone saves the cost of membership many times over. The club issues maps, and an infinite number of descriptive pamphlets, giving information as to hotels, police regulations, customs laws, etc., besides more than 300 card itineraries with sketch maps, and a dictionary in six languages of such phrases and words as would be of use to a motorist. The club will upon application make up special itineraries and facilitate a foreign tour in many ways.

If you are going to tour in Continental countries other than France, you can secure through the club a *triptyque* which will relieve you of all the details regarding duty and even the payment of it in the various countries you may visit. The application for a *triptyque* is made on a prescribed form and must be accompanied by a deposit of the amount of duty which would be imposed by each of the countries to be visited. The *triptyque* is issued under the authority of the club which becomes responsible for its members during their sojourn. If one is to tour in France only and does not expect to enter other countries on the Continent, the *triptyque* is unnecessary. Its chief convenience lies in the fact that it avoids the necessity of dealing with the customs officials at the ports of entry and departure. It is not necessary in taking a motor car to England as no duty is exacted in Great Britain.

Those who are going to tour in Italy should join the Touring Club of Italy. Its headquarters are at 14 Via Monte Napoleone, Milan. Membership costs 10 lire (\$1.94) and is very helpful. The club offers most of the facilities afforded by the Touring Club de France.

If you are going to tour Great Britain join the Motor Union of Great Britain and Ireland, which corresponds to the Touring Club of France. Membership, which costs one pound one shilling (\$5.25), can be procured in advance of reaching England by application to the secretary, No. 1 Albemarle street, Piccadilly, London, W., with a remittance covering the fee named above. This organization is very helpful and membership therein desirable in that it will secure discounts from the customary prices charged at many hotels. It also assists members in any legal complications, in shipping cars to France or other European countries, in securing insurance, et cetera.

INFLUENCE OF HEAT TREATMENT ON STEEL*

By THOS. J. FAY, President Society of Automobile Engineers

STEEL, no matter what its chemical composition or mode of fabrication, is rendered soft or hard, and otherwise altered in its texture, if it is "heat treated." It is of course understood that the extent of the changes that can be brought about by heat treatment will depend upon the composition and the other characteristics of the steel. It is also true that skill and the facilities used for treating the steel will greatly influence the results. It is proposed, in this chapter, to go into this matter at some length, and the endeavor will be to show the various ways in which the several grades of steel used in automobile work may be rendered best fitted for the work. An attempt will be made to set down all requisite data for the benefit of those who have every facility without neglecting engineers who may not care to pay the cost of all the necessary equipment.

Fortunately, automobile engineers are of that class whose knowledge and experience place them in advanced positions, so that it is unnecessary here to begin with an elementary course. Much of the information might even be abandoned were it not for the fact it is desired to cater to some extent to "artificers" as well as to engineers, and it may be many of them are not in possession of many of the fairly well understood facts in relation to the question of the heat treatment of steel. Even engineers who have not made a specialty of the manipulation of "alloy steel" will find in these pages some cautions and data that may well serve for them, notwithstanding their considerable knowledge of the subject. The reason for this is that "alloy steel" intensifies the expected action, and those perfectly familiar with carbon steel phenomena might be at a loss with other products.

Product Should Be Properly Classified First.

To more clearly understand the situation, it will be proper to point out in what way heat treatment alters the structure of steel, for then it will be possible to understand the advantages to be derived from such a proceeding. If steel is in the normal state as it comes from the maker, it may be desirable to reduce it to some condition foreign to the normal, for some purpose dictated by the service to be rendered. Normally constituted steel is a product, the condition of which seems not to be well understood by many, and it will therefore be desirable to endeavor to qualify on this point. Steel is not always in the normal state as it is received from the makers, so that it is not possible to describe normal steel as the product as it is received. Even though the makers are not in the wrong in any way, it is possible the steel may be in an abnormal state, even if it is ordered as normal. The point to be made here, then, is to fix a distinction as between steel in the normal state, as compared with the product in some one of the abnormal conditions.

Steel may be reduced to the conditions as follows:

- (I) Normal (Pearlitic)
 - (a) Lamellar.
 - (b) Granular.
- (II) Normal (The preponderance of Ferrite)
 - (a) Lamellar.
 - (b) Granular.
- (III) Normal (The preponderance of Cementite)
 - (a) Lamellar (Pearlitic).
 - (b) Granular.
- (IV) Martensitic.
- (V) Sorbitic.
- (VI) Troostitic.
- (VII) Austenitic.
- (VIII) Burnt.
- (IX) Composite. (Soft core and hard shell.)—Cemented,
- (X) Conglomerated.

*Extract from Chapter XXI, "Materials for Automobile Construction," By Thos. J. Fay, E. E., to be published by the Class Journal Publishing Company.

This is not to say that all steel can be classified under one or the other of the heads above given; on the contrary, it would be extremely difficult to accomplish such a task in many instances. For this reason it is important to know the history and the chemical composition of a product, before any attempt is made to heat treat it. The condition (IX), for illustration, cannot be established if the steel is of high carbon, alloyed or not. The reason for this lies in the fact that if the carbon is high the core will not be rendered soft. The shell will be hard, to be sure, but the core will be hard also and the steel will be rendered non-dynamic as a result. Such a product would be so brittle as to serve no useful purpose at all.

Likewise, the "burnt" structure is due to the fabrication, and the user of the steel cannot correct this structure by any available means. Steel, then, in the state (VIII) is not good to use nor can any mode of heat treatment correct this. Many illustrations of the fact that history is important could be given.

Pearlitic steel might be classed broadly as steel holding pearlite; on the other hand it is the purpose here to fix for normal pearlitic steel that product holding approximately .009 per cent. carbon as pearlite. If the steel of this carbon content is not as pearlite, it is not in the normal state. It could still be pearlitic, but it would not be normal pearlitic steel. The classification (I) then contemplates the steel of the carbon content stated, holding 100 per cent. pearlite, or very nearly so.

Carbon Content Determines Normal Condition.

If the steel holds less than .009 per cent. carbon, it will be normal, if the condition is that of pearlite and ferrite in the proportions consistent with the total of the carbon present. That is to say (assuming a case in point), if the carbon is .002 per cent., the proportions for normal steel would be as follows:

as 90 : 20 :: 100 : 22.2 pearlite
and,

100 — 22.2 = 77.8 ferrite.

Or, in general, it would be possible to say (for steel holding less than .009 per cent. carbon) the proportions of pearlite to ferrite for normal steel would be:

as 90; points of carbon :: 100 : % pearlite, hence
100 — pearlite = ferrite percentage.

In other words, in normal steel of the class holding less than 90 points of carbon, there should be no condition besides ferrite and pearlite. There is one other point to be observed in this connection before the matter can be settled, viz: the pearlite can be in either one of two conditions as follows: (a) lamellar, (b) granular. The lamellar pearlite is produced if the steel is cooled very slowly from a very high temperature (annealing process). It would seem, therefore, as if this is not the pearlitic stage likely to obtain in normally constituted steel.

The granular pearlite, on the other hand, is shown as an intimate mixture of ferrite and cementite, the product resulting from a reheating to a low temperature and cooling in the air. This granular pearlite (irregular granular structure) is more likely to be the normal product of the mill than the steel of the lamellar pearlitic condition. It follows, therefore, that it will be proper to regard the condition (I) as of the (a) or (b) stages.

Obviously, not to know the history of the steel is to take great chances in its heat treatment, if the effect of heat treatment is varied with the previous condition. The amount of the actual variation, as a result of the previous condition, really depends upon the composition of the steel, it being the case that products very low in carbon are not so readily effected as those in which the reverse holds true. This latter statement will hold for all genera of steel, alloyed or not.

The pearlite condition can be varied in the products (II) and (III) as well as in the product (I), hence it will be well to

make an (a) and (b) distinction in these cases also. Beyond these stages, however, the situation becomes too complicated to attempt to maintain a separate classification of the pearlitic stages, since it requires no stretch of the imagination to indicate that there are innumerable stages intervening.

If the carbon is in excess of .009 per cent., normal steel will consist of pearlite and cementite excess, just as in the case of the steel with less than this amount, the excess is ferrite. Considering the higher carbon steel then, it will only be normal if the ferrite excess does not exist and cementite is the sole excess. Certainly it would be far from good practice to treat steel holding a cementite excess in the same fashion as if the excess were ferrite. With the carbon content in excess of .009 per cent., there is the same question of the pearlite condition, and a distinction must be made as between annealed and normal steel. This will be a difficult thing to do in general practice, and it becomes necessary as a rule to depend upon the vendor of the steel, to a very great extent.

If steel is alloyed, the effect of the alloying elements must be taken into account in the heat treatment, and in numerous mixtures the carbon conditions will be found awry. What has been said about the carbon condition holds if there are no alloying elements present, and also to a great extent with some of the alloying elements present, while others serve to alter the carbon condition to an enormous extent, since some of the alloying elements form carbides, as vanadium. Certainly, if carbides are formed, it is not to be expected that the more simple conditions hereinbefore described will still hold true. But this is not the time nor the place to discuss these matters in detail, more than to point out that it will be a fallacy to expect the same results from the same treatment for all grades of steel or for any one grade of steel irrespective of its condition before treatment.

However good the facilities for treatment may be, to proceed without knowing the history of the steel as well as the composition thereof, is to chance spoiling it and to end by having present in the automobile a part of no safety at all. It is plain from what has been said that besides the normal and annealed products there are the other conditions to be taken into account. The martensitic (IV) condition is brought about if the steel holds carbon between .002 per cent. and .009 per cent., provided the steel is suddenly quenched from a high temperature. This martensite formation is more completely developed if thin specimens are raised to a point above A_{r_1} and suddenly quenched in a suitable cold bath. The question of the appropriate bath for quenching is a matter to be discussed at length at a later time. At all events, it must not be expected that a very complete martensite structure will result from the ordinarily more or less indifferent practice, or if the specimens are of great bulk. If the mass is great, it is not possible to so suddenly bring about the requisite temperature to evolve the martensitic formation only.

Some Conditions Are Only Transitory Stages.

The sorbitic (V) condition is a transition between cementite and ferrite, in unhardened steel, or if the steel is hardened, sorbite is the transition between cementite and martensite. A very simple way to bring about this stage is to temper steel in the martensitic stage. It is this sorbitic stage to which many of the important parts of automobiles are reduced to render them fit. The martensite would not be sufficiently dynamic (kinetic) to afford the requisite safety, and in tempering the quenched parts the object is to bring about the sorbitic condition. Of troostite (VI) it may be mentioned that its formation holds between martensite and ferrite, and is a mere transition to be regarded as the product obtainable if the carbon content is approximately .009 per cent. This formation will follow the mild quenching of martensitic formations, or it may be produced in other ways, as when steel of the requisite carbon content is suddenly cooled from the point of "recalescence" It is also likely to obtain if small pieces are oil-quenched, from a temperature above the "critical" range.

Austenite (VII) is the product of suddenly cooled steel if the carbon content is quite high—.015 per cent., although more or less of the austenite formation will result even if the carbon content varies over a considerable range. The quenching temperature should be about 1,050 degrees C. for the austenite production, this being higher than the usual quenching temperature. The austenite formation is not easy to distinguish nor is the carbon condition well enough defined to enable metallurgists to say much about it. The austenite is softer than the martensite surrounding it, and if ammonia nitrate is used as an etcher, the austenite does not color as does the martensite.

Burnt Steel Is Not Wanted for Any Purpose.

The "burnt structure" is the least desirable of all; indeed, it is not wanted at all. (VIII). This is the structure in which the grain formation is broken up, the separating media consisting of oxides. There is no heat treatment that the author knows of that will reduce the oxides, hence this formation is quite worthless, since burnt steel has no value in structural work of any responsibility. Nor does any authority attempt to say in what way burnt steel can be rendered free from the damaging oxides that render the steel brittle and unreliable.

The author does not understand that steel will be burnt in the act of heat treating, since the burnt structure is that peculiar to the process of fabrication under certain conditions, described elsewhere. There is a crystalline structure that is arrived at in heat treating that is frequently said to be a burnt structure, but it can be corrected in most cases where a suitable process is skillfully employed.

The composite (IX) formation, as here set down, is nothing more nor less than the "cementing" (case-hardening) process by means of which low carbon steel, alloyed or not, is rendered hard on the exterior while the core is rendered soft but tough. This process is peculiar to low carbon steel, and cannot hold if the carbon is in excess. As a matter of fact, the carbon should not exceed .002 per cent. as a maximum, while it would be better below .0016 per cent. in strictly carbon steel, and even lower in alloy steel. Class (X) is not a well-defined class of the product of heat treatment. It is, in fact, what results from imperfectly conducting a defined heat-treating process. As a rule, this is what is not wanted in quest of a well-defined condition. When treated steel does not answer to any of the defined conditions, the author then prefers to classify the product as a "conglomerate."

It is possible, then, to consider some ten different conditions of steel, as a result of manipulation for the most part, it being the case that one of these conditions is the result of insufficient care in fabrication, i.e., the burnt structure (VIII). It is to definitely establish some one of these conditions that heat treatment is given to steel. If steel is in the normal state upon its receipt from the mill, some one of the other conditions can be fixed, assuming the steel is of a grade suitable for the purpose. It is not claimed that any grade of steel can be reduced to any one of the states before named, and it requires quite as much skill in the selection of the steel as it does in its manipulation. If steel is "nature hard," for instance, to render it soft will be an obvious impossibility. If, on the other hand, the steel is naturally soft, it may resist hardening by every known process unless the product is first "cemented" in order to increase the carbon content sufficiently to bring about the desired result.

Even then, it must be remembered that steel cannot be carbonized to a great depth, hence, the "core" will remain soft, although it may be toughened in the process. Likewise, it will not be possible to fix the sorbitic stage, unless the steel is so constituted as to render the process possible. The composition of the steel, the quenching temperature, and the sizes of the parts are all factors to be taken into account, not to mention the previous history and the skill of the artificer in influencing the result for good or evil, as the case may be.

Each alteration of the carbon condition will have its resultant change in the strength and performance of the steel. It fol-

lows, therefore, that any carelessness in ascertaining the exact composition of the steel, or any lack of deftness in the manipulation thereof, must react on the results to the detriment of the product. When alloying elements are present, the chances of failure are much enhanced, and it is only by repeated trials that the best results may be realized, provided the repetitions are under control and well-defined. What chance is there then of attaining exact results, if the process is conducted in a place not provided with any of the requisites or if the artificer is without exact knowledge of the attending phenomena?

With every facility, with the best possible steel for the purpose and with an artificer of pronounced skill, it is still possible to evolve but indifferent results in some cases. It is, on the whole, a considerable task to heat-treat some of the alloy steel products, and be reasonably sure of attaining the ends sought for. It is even a question if the more simple problems in heat treatment can be solved day after day, and not have a percentage of misses. The micro-structure is not the only thing to take into account, there is the question of the static and the dynamic ability; the utility as a bearing surface and the physical properties in view of the service to be rendered. A crystalline structure would, of course, be undesirable, and it might be said this sort of a structure would show in the microphotograph. At all events it is necessary to avoid a condition of crystallinity, and it is desirable to afford a silky fracture, as well as great density.

The test proof should be "cupped" if the steel is of great strength, and to attain this condition the heat treatment must be consistent with the requirements. Some grades of steel will not "cup" at all, and they are to be avoided, if the service to be rendered is that requiring a grade of steel that will be D.S.C.* at the fracture as the result of a pull test. Some grades of steel will show these phenomena under all conditions to which the steel can be reduced. The question of dynamic (kinetic) ability is one that should receive much attention in automobile work, and it is one of the purposes in heat treatment to establish this condition to the maximum possible extent. Steel can be rendered hard and at the same time it can have imparted to it increased kinetic qualities. On the other hand, the same steel can be rendered hard and have its kinetic ability almost completely destroyed.

Hardness Is Not the Only Quality Desired.

Tool steel, holding upwards of 25 per cent. Tungsten (other components to suit) will be rendered extremely hard if it is raised to about 1,400 degrees C. and cooled in an "air blast." But this does not mean the same steel will have dynamic value. Steel so manipulated will be good for its own purpose, i.e. as tool steel for cutting purposes. Certain grades of chrome nickel steel will be rendered hard if they are slowly raised to a temperature one-half that stated for tool steel, and allowed to cool in still air. These grades of steel will possess great kinetic abilities, serving perfectly for dynamic duties, but the steel so treated will not serve as a tool steel at all. Here is a case of a difference in temperature with slow cooling in air instead of forced cooling in the same media, and a difference in kinetic ability. Both products will be almost equally hard, but only one of them will hold a cutting edge.

A close observer would say then, that if steel will hold a cutting edge it may not be so good as a product for dynamic work. It would serve as a means of finding out if a product is dynamic, to a certain extent, at any rate. Indeed there are many ways of ascertaining the utility of a product besides the conventional tests, and such rule of thumb methods are employed as the preliminaries to a more complete test, if, after the quick, ready at hand trials, the steel is found of enough value to make further tests worth while.

Of course the micro-structure is a close index of all such matters, but it is unfortunate that there are but few practitioners who resort to the microscope, in every day work, if at all. To show that a difference in heat treatment will make a micro-

*D = dense; S = silky and C = cupped, at the fracture of a test specimen or proof, International standard dimensions preferred.)

structural difference in the steel, it is only necessary to consult the micro-photographs given in this work. In general, it will be possible to point out approximately the results of different modes of heat treatment which would hold even though the micro-structure be not examined. Take for illustration .009 per cent. carbon steel, this product would have, as before stated, 100 per cent. pearlite in the normal state. This same product would hold 100 per cent. martensite, as a result of quenching above A_{r1} . Certainly the difference as between 100 per cent. pearlite and the same percentage of martensite is almost as the two extremes. It might be well to point out, however, that the steel so constituted would not be soft, even with 100 per cent. pearlite, and would be "glass hard" with 100 per cent. martensite.

Let us take another case with lower carbon; say .002 per cent. In this case, the normal steel would hold 22.2 per cent. pearlite, and the same steel, if quenched from a temperature above A_{r2} , would develop a martensite formation of 100 per cent. On the other hand, if the same steel were to be quenched from a temperature between A_{r1} and A_{r2} the martensite of the quenched product would be equal to the pearlite of the normal steel. There is one other point to be explained before this matter can well be dropped. It was shown that the martensite would be 100 per cent. under certain conditions for both .002 per cent. carbon steel, and for the steel holding .009 per cent. carbon. Will the two separate grades of steel (very different in carbon) have the same strength in the martensite state? If the "tensility" alone be considered as sufficient to reflect the point to be made, the matter can be stated as follows:

Water quenching at 750 degrees C. has no appreciable effect on the tensile strength of steel between the limits of .002 and .009 per cent. carbon. The result is the several products will take on the hardness due to their carbon contents. It is not, therefore, probable that the 100 per cent. martensite in the widely differing products would be followed by a hardness the same for all. It seems almost unnecessary to raise this question at all, unless to more clearly point out the difference as between the hardness of martensite *per se* and steel hardness in general.

It is not to be inferred from this that the tensile strength of all the products with their respective carbon contents will remain stationary if quenched at 750 degrees C., but the alterations noted are not great, and it has been shown that to increase tensility, the water quenching must take place at a higher temperature, say 900 degrees C., at which temperature the products above .005 per cent carbon would be valueless unless a subsequent annealing process be conducted.

Equipment Should Be Sufficient for Requirements.

If it is true that the products to be heat treated must be manipulated with exactness, it is then true that the equipment must afford the means for doing so. Certainly a forge, a bucket of water and a pair of tongs will not suffice for the purpose. On the other hand, exact knowledge and a crude equipment is to be preferred to all the laboratory refinements in Christendom in the hands of a manipulator of no skill.

The prime considerations might be catalogued as follows:

(a) Steel of the desired qualities for the respective tasks to be accomplished. (b) Equipment of the hardening process consistent with the requirements. (c) Knowledge of the steel and the process of heat treatment. (d) Skill in the process.

This may be just as good a time as any to set down the general requirements of the steel to be treated, in view of results to be attained, for if knowledge of the steel and the equipment be at hand, the accomplishment of the rest of the task will be but a matter of execution. On the other hand, it is plain that the hardening room question is truly a separate matter from the abstract steel question; hence it will not be proper to discuss steel at any length at this time. The discussion here then will be limited to a few hints such as will aid the manipulator in the selection of the treatment to use under the several likely contingencies that are most apt to arise in the preparation of materials for certain specific purposes on the automobile.

SHOP KINKS OF INTEREST TO THE AUTOIST

IN a former issue were given sketches showing how to anchor a Cape cart hood iron in case the original fastenings proved insecure. The method shown could be carried out without a blacksmith's aid and with only ordinary tools. If, however, the job can be sent to a blacksmith or to a carriage shop, a much more substantial repair can be made, as shown in the accompanying illustrations, picturing two or three modifications.

In Fig. 1, *A* is the iron, and *B* shows the original form of the lower end. The fault of this design is that there is no sufficient hold against the purchase of the overhanging upper end, in case the overhang amounts to several inches, as it sometimes does. In addition, the screw *C*, which does not go clear through the side of the seat, is too small to serve as a fulcrum. To correct this defect, the first thing to be done is to put a carriage bolt, *D*, right through the side of the seat, having its head outside, as Fig. 2 shows. To oppose the purchase of the upper end, the lower end must be cut off and a piece welded on it and shaped to act as a lever. It would be possible to

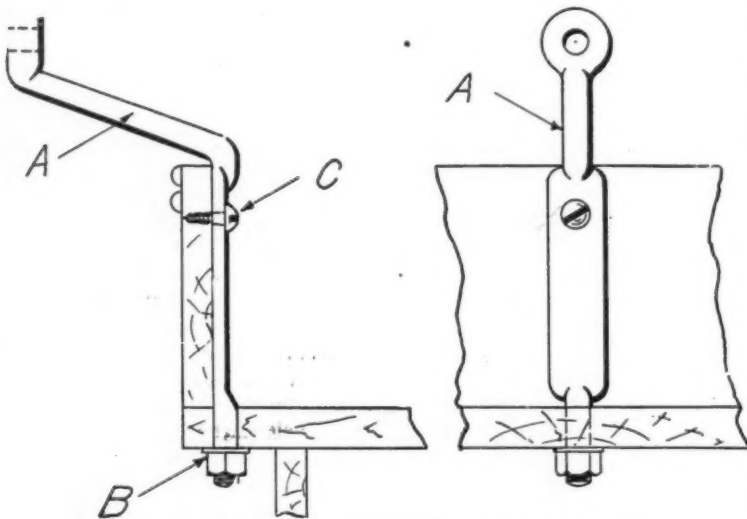


Fig. 1—Former method of anchoring cape cart top irons on body.

have this piece extend horizontally inward over the wood seat. This, however, might possibly interfere with taking out the gasoline tank, and in that case the extension *E* can be shaped as a flat inverted *T*. The ends of this *T* are drilled for bolts to pass down through the overhanging part of the wood seat. The *T* so formed does not need to be more than 1-8 or 3-16-inch thick, and if the edges are beveled off it will not chafe the bottom of the cushion. In a particular case the charge made by a wagon shop for this repair was \$3.50 for two front irons.

Grounding Make-and-Break Contacts.

In a make-and-break igniter the grounded electrode is the rocking stem and finger. This stem is lubricated by what oil may chance to pass it from the combustion chamber. Usually this oil is sufficient for lubrication, and it may be so abundant as to interfere with the flow of current. It is not uncommon to see sparks jumping from this electrode to adjacent parts when the motor is running fast. In case misfiring is noted, and the insulation of the lava bushings is known to be good, a light coil spring may be connected between the rocking stem and any adjacent grounded part, such as one of the studs holding the igniter plate. This spring should not be stiff enough to interfere with the make-and-break movement. Soft copper wire is the best material for it, and one end of the wire may be soldered to a copper "battery terminal" held by the stud nut, this making a permanent and reliable method of fastening electrical connections.

Ordinary grease when used to stop spring squeaks has the ob-

jection that it quickly works out, leaving the squeak as bad as ever, and making it necessary to repeat the operation quite frequently. If graphite be mixed with the grease until the mixture is quite stiff it will last a good deal longer than grease alone. Best of all, however, is linseed oil and graphite, since this does not tend to cut the band like mineral or animal grease. The graphite should be added to the consistency of a stiff paste, and the oil then serves simply as a binder.

A Clutch Renewal.

The leather of the ordinary cone clutch by degrees acquires a sort of coarse surface glaze, which may or may not represent actual charring of the leather, but is certainly due to the slipping it experiences. A leather with its surface so glazed has a very harsh action, since the surface is so hard that it grips all at once. The glazed surface will not absorb oil to any appreciable extent, a fact which is easily seen on attempting to dent the surface with a thumb nail after giving the oil time to soak in. In this condition the best thing to do is to put on a new leather. Unless the angle of the cone is too abrupt, a piece of ordinary belting will serve the purpose, provided it is of uniform thickness throughout. The belting may be soaked in neatsfoot oil over night before applying, and this will render it pliable enough to take the shape of the cone. If the old leather is retained in service it becomes almost essential to squirt a little oil on it every day or two, as otherwise it may take hold with such a jerk as to endanger the transmission shafts. If the cone releases by drawing backward, there are probably openings in the web of the cone through which the spout of a squirt can may enter. Oil squirted into the flywheel interior will then quickly find its way to the clutch surface. Sooner or later, however, the leather will become glazed so smooth that it will not hold at all, and it is then liable to slip and burn up without warning. There are few things more exasperating than a clutch which cannot be made to hold properly, particularly when the car happens to be covering a bad stretch on which every available bit of power that can be transmitted to the rear wheels is necessary. The use of emergency remedies under such circumstances most often leads to the necessity for clutch repairs, as road dirt and grit are not the best things possible for the leather facing, and frequently no other friction producing compound is to be had at the time.

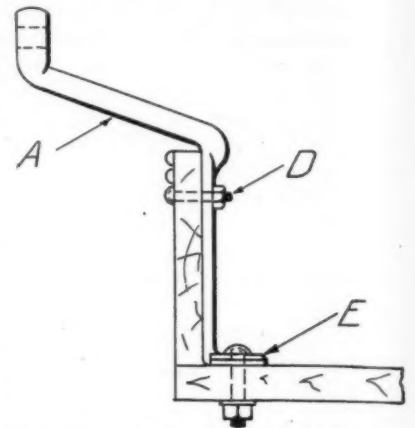


Fig. 2—Improved method of fastening.

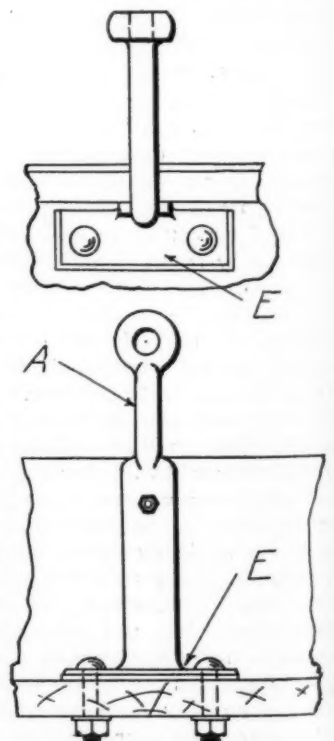


Fig. 3—"T" style irons.

ABOUT SOME CHARACTERISTICS OF MAGNALIUM

By M. R. MACHOL.

MAGNALIUM is an aluminum alloy which promises to fulfill the expectations based in the past on aluminum but never wholly realized. Like pure aluminum, it can be cast in a liquid condition. The castings can be machined about the same as brass. The machined surfaces are of a mirrorlike smoothness and silvery color, and perfect screw threads can easily be cut in the metal. Bored holes are always very sharp and clean, while filing results in fine, regular, cleancut surfaces without tearing up the metal or clogging up the file, and it will allow even the use of the finest files in its working.

Magnalium can be cast by any foundryman, the only precaution necessary being the use of clean graphite crucibles, and care must be taken not to increase the temperature too far above the melting point, as this weakens the metal. If cast in an iron chill, the tensile strength is greatly increased and is at a maximum if the chill is water-cold. Cast in dry sand, the usual quality of magnalium has a tensile strength of 18,000 pounds per square inch, and shows reduction of area of 3.75 per cent. Cast in iron chills, 22,000 to 25,000 pounds per square inch may be realized, the reduction of area being 5 to 8 per cent. The tensile strength of a quality containing a somewhat smaller percentage of aluminum equals about 34,000 pounds per square inch, but can be increased to about 42,500 pounds per square inch by proper treatment. By drawing, rolling, pressing, etc., the tensile strength obtained by quick cooling is still further increased. Wire drawn from one quality of alloy has a tensile strength of 41,000 pounds and 10 per cent. reduction of area, while it will stand 53,000 pounds if the raw material has been forged before drawing.

High Tensile Strength May Be Realized.

Soft rolled sheets of alloy "Z" have a tensile strength of 42,000 pounds and 15 per cent. reduction of area; hard rolled sheets about 52,000 pounds and 3 per cent. reduction of area. Magnalium containing less than a certain percentage of aluminum cannot be rolled but can readily be drawn. The tensile strength of a drawn bar was 60,000 pounds, and that of a tube 74,000 pounds per square inch. Another advantage of magnalium is that it is extremely close-grained, so that the polishing can be done without previous treatment by any special instruments. Furthermore, in lathe work, the tool speed can be twice as high, thus making a great labor saving. Pure aluminum, being soft, can be cut with a knife like zinc or lead, while magnalium is hard. Some magnalium alloys, however, are very ductile and can be forged, rolled, drawn, etc., sharing all the advantages of aluminum in this direction.

Annealed magnalium "Z" is so ductile that it can be rolled or beaten like silver. The elasticity of cast or annealed magnalium is small, but in the forged, hard-rolled or drawn material it is much greater. It attains and maintains a high polish and shows excellent resistance to atmospheric conditions. Its color is silvery white and it has the further advantage that its specific gravity is less than that of aluminum. While the specific gravity of pure aluminum is 2.64, magnalium shows 2.4 to 2.57, according to the percentage of alloy. The metals named below are the following number of times as heavy as magnalium:

Zinc	2.87	Brass	3.61
Tin	2.92	Silver	4.20
Cast iron	2.88	Lead	4.56
Nickel	3.30	Gold	7.70
Copper	3.58		

The melting point is 640 to 676 degrees C., or 1,185 to 1,250 degrees F.

Magnalium does not have any odor and resists oxidation better than any other light metal, being almost unaffected by dry or damp air, water, gaseous ammonia, carbonic acid, sulphuric acid, hydrogen and most organic acids. It is only very slowly affected by saltpeter or sulphuric acid, and more rapidly by alkalis or strong alkaline solutions. Salt water attacks magnalium slightly,

but where exposed to sea water the metal should be lacquered, which will protect it so that it will give excellent satisfaction. It shows almost no magnetic influences but its electric and thermal conductivity is about 58 per cent. of that of pure copper. The electric conductivity of the most important metals, taking that of copper as 100, is as follows:

Silver	100.00	Swedish Iron Wire.....	16.00
Copper	100.00	Tin	15.45
Gold	78.00	Platinum	10.60
Aluminum	63.20	Lead	8.88
Magnalium	56.10	Nickel	7.79
Zinc	29.90	Antimony	3.88

The specific heat of magnalium is 0.2185.

Treatment in Melting and Casting.

Magnalium is best melted in ordinary graphite crucibles, care being taken that the crucibles are perfectly clean. The metal must not be heated further beyond its melting point than necessary (about 1,200 degrees F.). The crucibles should be evenly surrounded with coke and should rest on a fireproof support, this being necessary to keep the crucible from direct contact with the grate and to prevent cooling the metal by an air draft after the coke burns up. The lid remains on the crucible to prevent contact between the air and furnace gases and the metal. The temperature should be as even as possible and the crucible should reach a red, but never a white, heat. When the metal is melted, the crucible should be removed from the furnace and placed on a warm iron sheet or other fireproof support to prevent the metal chilling from the bottom before pouring. The molten metal should be well stirred and the slag skimmed off, and then cast into an iron mould in such a way that the slag and oxidized skin can be kept back by a skimmer. No flux is necessary. In spite of its low melting point it should take 43 to 45 minutes to melt it.

In making sand moulds the sand is loosely pressed and should have as many airholes as possible. The casting channel should be cylindrical, the entrance should be wide and the casting funnels and the risers must be wide at the base and narrow at the top. The casting head should also be rather large. Where moulds are prepared in this way the air and gases can easily escape. The oxidized skin and slag will rise and the finished casting is absolutely free of pores or blowholes. For casting in an iron mould the metal must be hotter and the moulds should be well heated. When melting scraps, chips, turnings, etc., the larger pieces should be melted first, then the crucible should be removed and the borings, turnings, etc., be added, as otherwise the loss due to burning is too large. When melting large pieces this loss is not more than from one-half to one per cent. The loss in melting borings and file dust is as much as 10 to 15 per cent. In damp sand, the metal should be cast quickly and at as low a temperature as possible. In dry sand or chills, the metal should be bright red and should be cast slowly. Ingots must be cast in closed moulds with planed inner surfaces. The moulds should be well cleaned before using, brushed with graphite and well heated. Castings in sand should be cooled slowly, but chilled castings, especially ingots, should be cooled quickly, preferably in cold, flowing water. This makes the metal tough and ductile.

How the Metal Is Forged and Rolled.

Magnalium, especially alloys "X" and "Y," can be forged with good results most easily by heating the metal and then working about the same as Swedish steel. The metal must not glow red but must be hot enough to char a piece of wood. Of course, the casting has to be clean before forging to avoid cracks. The great ductility of magnalium, especially alloy "Z," makes it possible to produce plates of any thickness. The ingot is first heated to between 370 and 600 degrees F., and rolled so that the reduction at the first pass is about 20 per cent. Then the plate is

again heated. After the first two passes the plate is turned 90 degrees and passed through the finishing rolls until it reaches the required thickness for the particular purpose in view.

As magnalium rapidly loses its ductility in rolling it has to be annealed repeatedly. The rolls must be thoroughly cleaned and sprinkled with paraffin for every pass. If possible, it is advisable to work the ingot with a hammer before rolling. All roughness of the surface of the ingot should be scraped, as is done with copper or brass. A large amount of power is necessary for rolling, about as much as for heated steel. The operation is facilitated if the rolls are heated to a temperature of from 210 to 300 degrees F. Ingots thicker than .15-inch must be annealed after each pass. Below this thickness, plates can be finished by cold rolling. All other manipulations in rolling are about the same as with other metals.

Method and Results of Annealing.

Magnalium should be annealed in a muffled furnace in order to keep the flame and gases away from the metal, and the annealing furnace must be kept at an even heat. The metal must appear dark red and char a pine wood stick so that carbon particles separate from it. To anneal plates does not require as high a temperature. If plates are chilled in cold water, they will be very tough and ductile. The thinner the plates the lower should be the temperature of the annealing furnace. Plates of less than .01-inch thickness can be heated in boiling oil or water, and allowed to slowly cool. If magnalium is gradually heated to a temperature of less than 750 degrees F., and slowly cooled, the metal can be worked into springs.

It is a very ductile metal and in this respect is only surpassed by gold, silver, platinum and copper. The diameter of the cast ingot should be reduced very slowly at first, best results being obtained if the ingot is forged before drawing. Perfectly smooth wire as fine as silk threads has been made with astonishing tensile strength. Tubes made from plates or from cast hollow pieces are treated in exactly the same way as rods, namely, annealed repeatedly, chilled and drawn cold over a mandrel.

Where machinery is concerned, magnalium is remarkable, inasmuch as it can be tooled at high speed, about like steel. Screw-threads of considerable length can be easily and cleanly cut. The tools have to be very sharp, and the surfaces (both metal and tools) must be kept lubricated with either kerosene, turpen-

tine, paraffin, benzine, vaseline, soapwater or even clear cold water. Excellent surfaces will result and perfect screwthreads or holes will be obtained. To cut magnalium, a fine-toothed saw, lubricated with kerosene, is recommended. Magnalium can be punched, drop-forged and pressed without any difficulty about the same as silver, brass or steel plate, if well annealed.

This new aluminum alloy is a German product and it has met with considerable success abroad in such applications as bicycle, automobile and aeronautical work. It is manufactured by a large German concern, for which the writer is the American representative at 32 Park place, New York City.

PERMITS NEEDED IN MT. RAINIER PARK.

SEATTLE, WASH., Aug. 12.—No automobiles will be admitted to Mt. Rainier National Park henceforth unless they are provided with a permit from its superintendent, G. F. Allen, of Orting, Wash. Permits may be obtained for one year only.

A MAXWELL AMONG THE GIANT TREES.

Every school geography mentions the giant redwood trees of California, and usually has a picture showing a stage coach being driven through an archway cut in one, or a dozen men just able to join hands around the trunk. The up-to-date owner of a Maxwell runabout decided that these pictures were apt to give the youthful mind a wrong impression, and encourage them to believe that California was still a country of stages, cowboys and hold-up men; so, being a man of action, he immediately undertook to furnish a proper substitute. The result is the striking photograph printed below. Certainly no more startling contrast could be asked for than that between the little Maxwell and the giant trees to right and left of it.

Much has been written about these wonderful redwoods that are the peculiar product of Humboldt county, California, but scant justice can be done them from a description of their beauties, and they must be seen to be fully appreciated. A peculiarly romantic interest attaches to these forest monarchs when it is remembered that they are the only living things in the world that were alive when Cæsar marched his all-conquering legions through Gaul, and were saplings at the beginning of the Christian era. Some of them are declared by scientists to be at least 2,200 years old, and some are 300 feet tall.



Among the Giant Redwoods of Humboldt County, California, in a Maxwell Runabout.

LETTERS INTERESTING AND INSTRUCTIVE

WHAT MAGIC GASOLINE CAN THIS BE?

Editor THE AUTOMOBILE:

[1,508.]—I have for months past read your very interesting "Letters," which are more or less instructive. I have read on all complicated matters but one, which, by accident, I happened to think I have not seen any inquiry nor reply. This is the quality of gasoline used in motor cars and its effect on the power produced. I own a four-cylinder air-cooled Franklin car. It is in perfect condition, runs fine, and I have only one objection to it, and that is, that it has not power enough (12-horsepower) to carry me over steep and long hills on high gear. I took a trip of 128 miles last week and through a very rough and broken country. I ran out of gasoline. I use Standard Oil Company's gasoline when here. Not being able to buy any gasoline at any store there, I finally secured some at a drug store. I started out and to my amazement I had from 35 to 40 per cent. more power. I went up almost any hill on high gear and when on the level, on quarter open throttle, and my car, literally speaking, ran away with itself. What kind of gasoline could this have been? I wrote this druggist but up to now have had no reply. Upon my return here I phoned the Standard Oil Company my experience. They say they have an 88 proof gasoline, but they cautioned me not to use it, as it is very dangerous and extremely explosive. Could you enlighten me and possibly others by telling what kind of gasoline is best to use and to give the most power.

Chattanooga, Tenn.

FRANKLIN.

We are equally at a loss as yourself to tell you exactly what kind of magic fuel the dealer in pills and ointments must have given you to account for the wonderful increase in power, but if he sold it at the usual commercial rates, we should certainly advise buying it from him by the barrel. Most of us have to be content with what the "octopus" hands out, for there is no other obtainable in the ordinary course of affairs. On the other hand, as your car has more than sufficient power for its weight to take it up anything but the steepest hills on the direct drive, and over level roads at a very good pace, we think you might find it profitable to look to the condition of the motor and its accessories as a means of accounting for its ordinarily sluggish action. The carburetor may be poorly adjusted for the fuel you use ordinarily, the valves may need grinding in or any one of half a dozen other things may require attention. The ordinary commercial gasoline will be found to give the maximum power obtainable in the modern automobile motor for everyday use, provided conditions are right, i. e., the motor is in good condition throughout and the carburetor is adjusted to suit the fuel. The specific gravity of the gasoline now supplied is slightly lower than what it was several years ago owing to the largely increased demand for gasoline and the fact that the percentage of the lighter distillates in crude petroleum no longer makes it profitable to distill them except for special purposes and in comparatively small quantities. We are at a loss to explain what the dealer meant by "88 proof," unless he intended a specific gravity of .88 and there is mighty little of such light gasoline now to be had. It could only be more explosive by being lighter and hence, more volatile, but any grade of gasoline fit for use in a car will vaporize quickly enough to render an explosion imminent.

NO TRACE CAN BE FOUND OF THEM.

Editor THE AUTOMOBILE:

[1,509.]—Seeing letter No. 1,498, from George Briggs, I might say that I also saw the advertisement he mentions and would like to obtain a copy of the book myself. I sent a post office order to the Lansing-Mahon Press, Chicago, but it did not reach them, and then I sent them a registered letter, but this was also returned. I would like to know their present address.

East Milton, Mass.

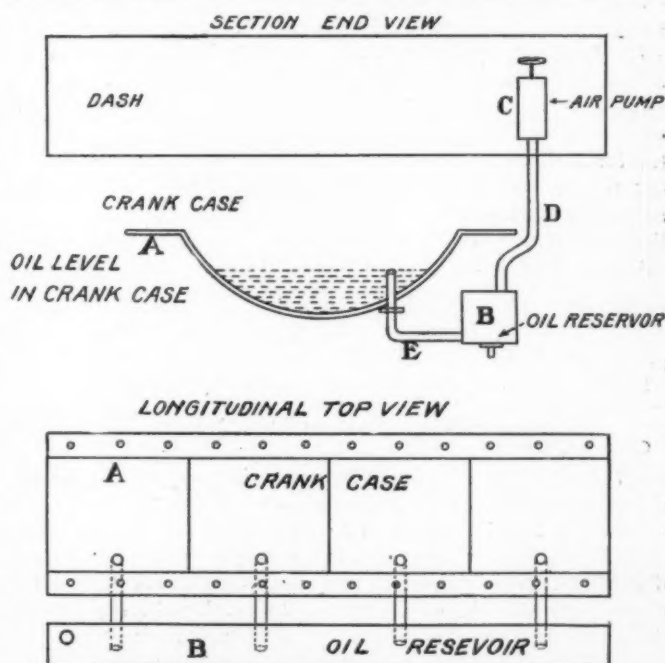
THOMAS A. HUNT.

A great many other people, who were not as fortunate as you in having their money returned to them, would also like to know the present address of the concern in question, but it has disappeared, leaving no trace behind. (The book was entitled "How to Know Automobiles," and it was said to contain "1,000 distinguishing features; you can know any car at a glance."—Ed.)

ORIGINAL SYSTEM OF SPLASH LUBRICATION.

Editor THE AUTOMOBILE:

[1,510.]—I note with interest letter No. 1,495 and your reply concerning the best way for using splash lubrication. I would like to give your readers the benefit of a new system I have worked out. I have never seen a force pump that was absolutely reliable and I believe the proper way to lubricate the cylinders, camshaft, etc., is by splash, if the oil is always kept at the proper height in the crankcase. My experience has taught me that the cranks should dip about 1-4 inch in the oil. I enclose a sketch showing my plan. AA crankcase, BB oil reservoir, C hand air pump on dash, D pipe leading from pump to top of reservoir, E pipe leading from bottom of reservoir up through each compartment of crankcase to the height oil should stand in the crankcase. The top of oil reservoir should be located, say 1-4 inch, lower than the desired height of oil in crankcase. This pipe through crankcase can be screwed in so it can be adjusted to proper height; all pipes should be at least 1-2-inch, in order to allow a quick movement of the oil. A crankcase filled to the proper height with oil will lubricate an engine from 40 to 50 miles without replenishing. The working of the system is as follows: Give the air pump about a dozen strokes, which will force into the crankcase about one pint



Sectional Diagrams Showing Mr. Lanpher's Lubrication Plan.

of oil, and in every case pump more than is required. The surplus will, of course, quickly flow back to the reservoir, leaving the required amount in the crankcase. The pumping should be done about every 40 miles, or two or three times a day. By so doing you have positively and absolutely the necessary amount of oil in the case at all times, no watching drops or guesswork about it.

What might be as well, or possibly better, is to dispense with the pump, and connect from top of reservoir to the exhaust pipe with open and shut valves located at a convenient place which could be opened for about one minute's time three or four times a day, or say four times for a 100-mile run, but in such case the valve or cock should be a three-way cock, so that when closed it would open an air passage to relieve the pressure in the reservoir so that the surplus oil in the crankcase could immediately return to the reservoir. The system is cheap, practical, and absolutely reliable.

C. W. LANPHER.

Norwich, N. Y.

We agree with you that there is no more effective method of oiling a motor than by splash lubrication, and every car on the market to-day, regardless of the elaborate point to which its lubricating system has been carried, depends upon the splash in the crankcase to some degree. In fact, this is usually the foundation of the system, the force-feeds being more for the purpose of insuring a constant supply of oil at vital points. But the oil from these feeds eventually joins the supply in the crankcase and

is utilized for splash lubrication. We can also agree with you that the ingenious system you have devised is cheap, simple and practical, but hesitate at concurring in your statement that it is absolutely reliable. How can it be, when it depends entirely on the driver? To paraphrase George Ade, "If a patent auxiliary could be provided that would jump out of the oil reservoir every 40 miles, hit the driver a sharp kick in the pants and shout in his ear, 'give the air pump a few strokes'," then we would be willing to say that it was all you claim for it, but as long as human nature remains what it is, any system that requires attention at such frequently recurring intervals as 40 or 50 miles hardly merits "absolutely reliable" as a recommendation. The personal equation is too strong a factor, and the driver is apt to forget it much oftener than where the oil supply only needs renewing every three or four hundred miles.

We have always been strong advocates of what may most aptly be termed the continuous circulating system of lubrication, in which oil is raised from a well situated beneath the crankcase to a reservoir or tank located alongside the engine, and from the latter dropped by gravity through liberal sized tubing to the crankcase, any excess overflowing into the well and again being raised or circulated. A sight glass located on the dash shows that the oil is running and with the exception of the pump, there are no small parts and no adjustments to make. On some cars, such a system is supplemented by a force-feed oiler, while on others it is depended upon as the sole means of lubrication. Experience has shown that the most effective and reliable systems of lubrication are those that depend upon the running of the motor for their action and not on the memory of the driver. We can readily understand, that having evolved your own method, you do not find it difficult to follow it out, but the many motors that have been ruined in the past five or six years through forgetting the oil tell a very different tale.

FUNCTION OF THE TORSION ROD.

Editor THE AUTOMOBILE:

[1,511.]—Please explain through "Letters Interesting and Instructive" the function of the torsion rod on the shaft drive automobile. Some machines don't use them and I cannot work out their office. Quidman, Ga.

W. MATHEWS.

When the manner in which the power is transmitted from the change-speed gear to the rear axle on the shaft-driven car is considered, it will be apparent that the turning of the shaft imposes a twisting strain on the whole rear end of the car and that if it were not for the frame and the weight of the car on the ground, there would be a tendency to revolve the rear of the chassis around the shaft, rather than to turn the wheels. But it would be bad practice to permit this strain to fall on the frame and hence the office of the torsion rod, which is designed to prevent its reaching that member. On cars that are not provided with independent torsion rods, it will be found that the housing of the propeller shaft has been made correspondingly stronger and that its support has been designed to enable it to act in this double capacity. This represents a simplification of design that will be found on quite a number of cars, as it eliminates a part exposed to mud and dirt.

EXPLAINING A LOSS OF POWER "ON HIGH."

Editor THE AUTOMOBILE:

[1,512.]—Kindly answer this question in "Letters Interesting and Instructive." I have a friend who has a single cylinder Oldsmobile which works all right on the low gear, but whenever it is thrown on the high or direct drive the engine dies right down and will not give any power.

Belleville, Pa.

B. HARRY SMUCKER.

There are such a number of things that may be the cause of this failure of the motor to carry the load on the high gear that it is difficult to sum them up in a word. The compression may be poor, the valves may need grinding, they may not be properly timed, the ignition timing may not be correct, or it may be that the simple adjustment of the carbureter alone may correct the entire trouble. Owing to the very heavy flywheel used on the

motor in question it will run light, i. e., without load, even though badly handicapped by faulty adjustments or other defects, once started, and will apparently be operating normally until the load is applied. Start the motor and then gradually shut off the gasoline at the carbureter until it will no longer run without missing; open the valve again very slightly and fasten at that point. Speed the engine by advancing the spark and opening the throttle and see if the auxiliary air valve of the carbureter works properly, tightening or loosening the spring slightly until the motor works properly at all speeds. Look to the adjustment of the ignition timer as this was an extremely crude device on the Olds runabout. Once the motor can be run at all speeds without missing or apparently losing power while not under load, try it on the road. If the adjustments have been properly carried out, it will doubtless be found that the car will run all right on both speeds, as it is usually an improper carbureter or timing adjustment, or again, failure of the trembler to respond properly, that causes this apparent total loss of power when the direct drive is used, as a serious fault like loss of compression through worn piston rings or valves, would not prevent the motor from responding altogether, but would not permit it to develop anything like its normal output.

COUNTING THE R.P.M. OF AN AUTO MOTOR.

Editor THE AUTOMOBILE:

[1,513.]—Would you be so kind and answer me in your "Letters Interesting and Instructive" the following: Which is the easiest way to find out how many revolutions a gasoline engine makes per minute.

EMIL LOEBEL.

Haledon, N. J.

The simplest and most convenient method is to apply a revolution counter to the end of the shaft. As few shafts are ever manufactured without the necessity, at one time or another, of being centered in a machine tool, a small counter-sunk recess will be found on the end. The pointer of the revolution counter is made to correspond with this recess, so that to use the instrument it is only necessary to insert it in the latter, maintaining sufficient pressure against the shaft to insure against loss by slipping. One man should hold a stop-watch, while a second operates the revolution counter. Take half a dozen consecutive readings of one minute each and average them up, and it will be found that this will compensate for any small errors in the handling of the watch and the counter.

MORE ABOUT REBUILDING AN OLD CAR.

Editor THE AUTOMOBILE:

[1,514.]—Referring to letter No. 1,488, by Douglass Adams, I will say that I installed the Belfuss Motor, and, in fact, did all of the work of remodeling the Pope-Hartford Car, which he says works so admirably. And if it will be any help to Joseph Sylvester, of Jamaica, N. Y., will say that I have ordered a 10-12-horsepower Belfuss Water-cooled Motor, to be installed in an Olds runabout. This 10-horsepower two-cylinder motor is to replace a 4 1-2-horsepower single cylinder motor, and when the job is completed I will let you know the result.

E. R. WELLS.

Keene Valley, N. Y.

As there are a great many old cars that could be improved by the equipment of a new power plant and a few touches here and there, the cost of which falls far short of the expense of buying a new car of equivalent capabilities, we are always interested in learning the results of these attempts.

WHO CAN FILL THIS REQUIREMENT?

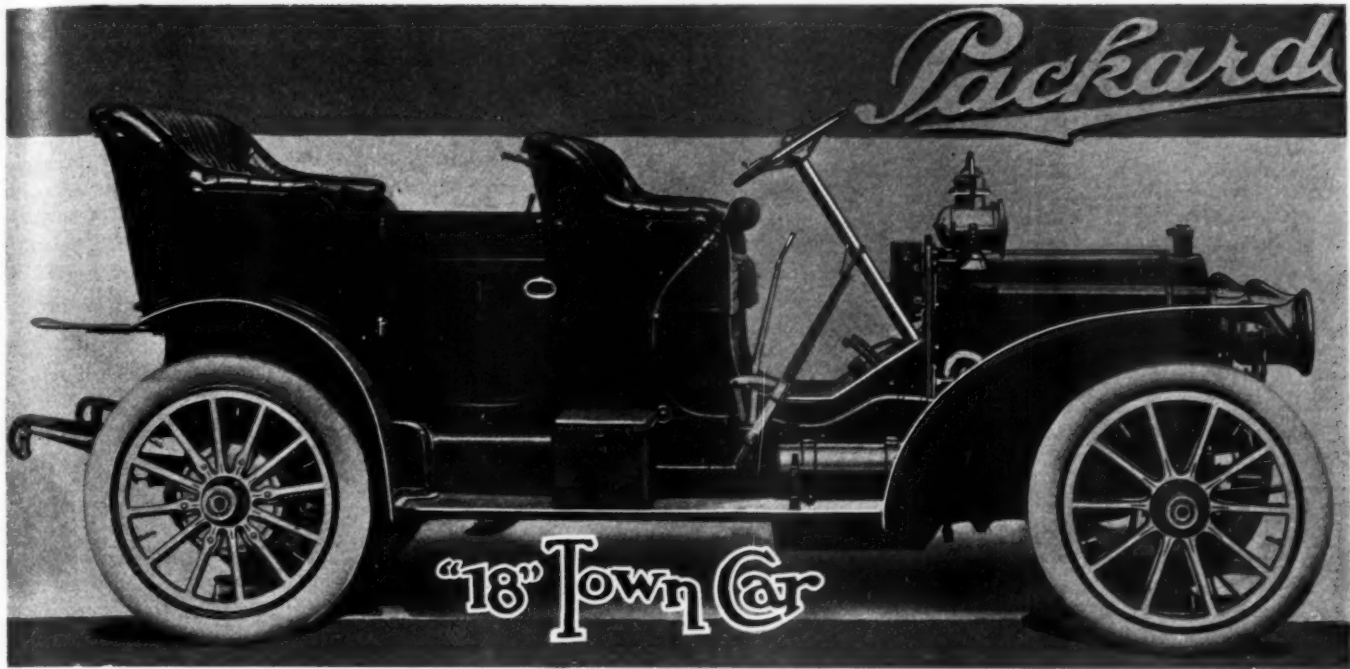
Editor THE AUTOMOBILE:

[1,515.]—As a subscriber to your valuable publication, I should be pleased to have you inform me if you know of any architect or builder's plans of private garages that can be purchased. I am thinking of building a garage at my country place here, big enough to house two or more cars.

Chatham, Mass.

H. M. CARRUTHERS.

We do not know of any one at the moment, who makes a specialty of supplying plans for small private garages, but are under the impression that this is done and probably some of our readers can come to the aid of the inquirer.



THE Packard Motor Car Company, of Detroit, is making the first deliveries of the new Packard "Eighteen" town car. This new Packard is exactly like the 1909 Packard "Thirty" in design and construction, but has smaller proportions to adapt it especially to the requirements of city and suburban driving of all kinds. It is furnished as a limousine, landaulet, runabout or five-passenger open car.

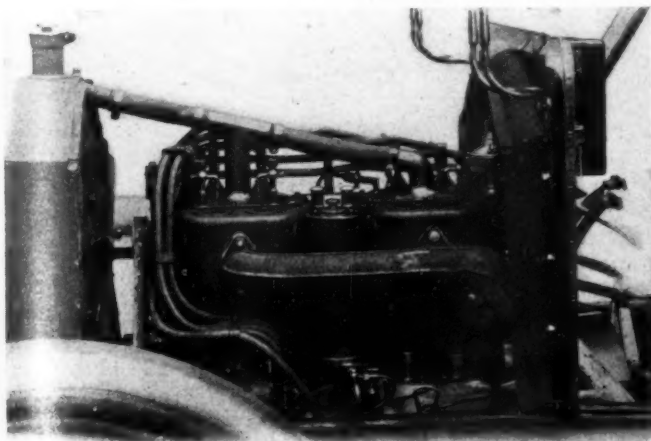
The four-cylinder, vertical, water-cooled motor is of 4 1-16-inch bore by 5 1-8-inch stroke, and is rated at 18 horsepower by the European system. The cylinders are cast in pairs, with water jackets and valve chambers integral. The castings for cylinders, exhaust manifolds, pistons and piston ring blanks are made in France from especially adapted gray iron. The pistons are ground and fitted with four ground rings. Cylinders, pistons, and rings are lapped together with a polishing agent to obtain an absolutely perfect fit between them.

The crankshaft is like that of the Packard "Thirty," which is noted for extreme accuracy, due to special manufacturing and inspection methods. All bearing surfaces are ground. It runs on three large bearings, bushed with Parsons white brass. The connecting rods are drop forgings. The crank pin bearings are bushed with Parsons white brass and the piston pins with Packard special bronze. The inlet and exhaust valves are on opposite sides of the cylinder, all mechanically operated and interchangeable. The camshafts

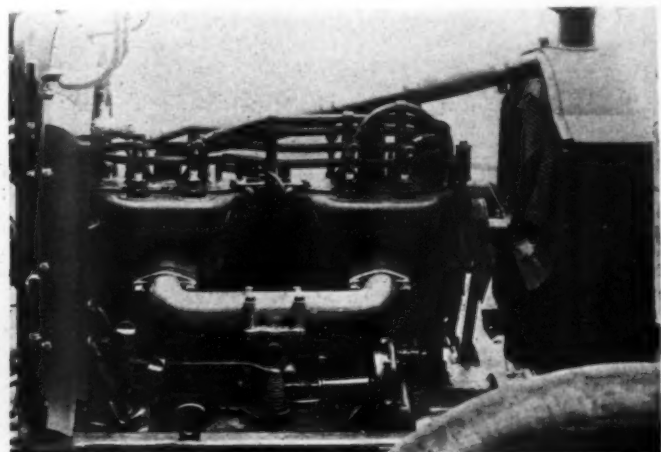
are enclosed within the motor crankcase, being fully protected from dirt and certain of lubrication. The new system of camshaft drive gears insures long life and silent running. All camshaft as well as magneto and water pump gears are contained in a separate but integrally cast oil-tight extension.

The crankcase is cast of special aluminum alloy in three horizontal sections. The uppermost section forms the engine base and is supported directly on side members of the main frame of the car. On each side, between the transverse supporting arms, is a horizontal, integrally-cast web, entirely enclosing the space between motor and frame, thus affording complete protection to motor, magneto and other parts. The crankshaft bearings are held between the uppermost and middle sections. Extreme rigidity of the main bearings is obtained by massive webs. The bottom section is an oil well, easily removable for inspection or adjustment of connecting rods, camshafts, etc., without disturbing the crankshaft bearings. The crankcase is divided into front and rear compartments by a central partition, which supports the middle crankshaft bearing and serves to stiffen the case.

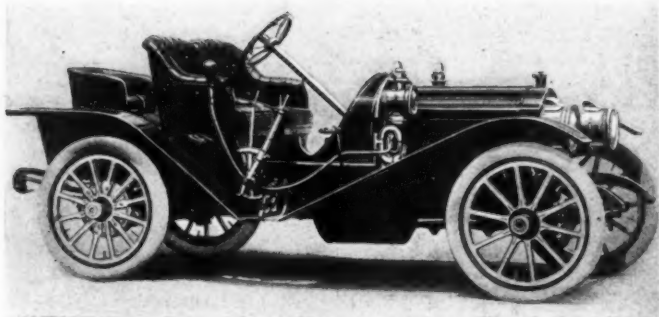
The carbureter is of special Packard design and construction, of the float-feed, aspirating nozzle type, with automatic auxiliary air inlet. The cylindrical and vertical mixing chamber has an aspirating nozzle in its lower portion and a butterfly throttle above, to control the quantity but not the



Packard Features on a Smaller Scale.



Essentially a Replica of Packard "30."



Lines of Packard "18" Runabout.

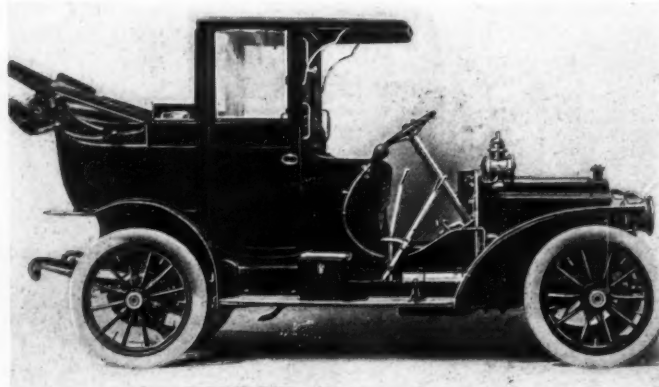
quality of the mixture. The auxiliary air inlet is a poppet valve under control of an adjustable coil spring and automatically governs the intake of air to keep the mixture at correct proportion for all engine speeds. Spring tension to suit different atmospheric conditions is regulated by a small lever on the dashboard. The carbureter is kept at uniform temperature by warm water circulating through a jacket surrounding the mixing chamber. For starting in cold weather there is provided a primary air intake shut-off, operated from the front of the car near the starting handle.

Water circulation is positive by means of a gear-driven centrifugal pump. A special feature of this pump is its hydraulic-pressure lubricated thrust bearing. The radiator is of the cellular type, combined with the tank. Forced draft to increase cooling efficiency is obtained by a belt-driven ball-bearing fan adjustably mounted on the forward cylinder.

Dual Ignition Is Part of Regular Equipment.

Ignition is by jump spark, the current being obtained from an imported Eisemann low-tension magneto, mounted on the left side of the motor bed and direct gear-driven by enclosed gears. A Fulmen imported storage battery, for starting the motor from the seat, is always in reserve. A transformer coil for the magneto current and a vibrator coil for the battery current is arranged as a unit in a box on the dashboard, with a single hand-lock switch between. The commutator for the battery primary current is on a vertical shaft at the rear of the motor and is driven from a camshaft by enclosed bevel gears. The distributor, high-tension wires and spark plugs are common to both magneto and battery systems. There are universal knife switches at the plugs.

Lubrication is by splash, from the crankcase to cylinders and all motor bearings. Oil is pumped separately to the front and rear compartments of the crankcase, in each of which is maintained an independent level of oil. The double plunger oil pump, with adjustable strokes, is accessibly located at the left of the motor and is driven by a worm on the exhaust valve camshaft. Oil is pumped from a vertical



The New Packard as a Landaulet.

copper reservoir close to and between the pairs of cylinders, so that the oil will be warm and kept in fluid, easily flowing condition even in coldest weather. There are two drip sight feeds on the dashboard. The crankcase drain cocks have anti-clogging devices.

The motor speed is regulated by an effective and easily controlled hydraulic governor incorporated in the water circulating system and acting directly on the butterfly throttle. A pedal cuts the governor out of action for instantaneous acceleration and high-speed running. The throttle also is under control of a hand lever on the steering wheel. Another lever on the steering wheel advances and retards the spark.

The drive is through a Packard type internal-expanding clutch which insures gradual engagement. The expanding ring within the flywheel rim is actuated by an adjustable screw-and-nut device. The propeller-shaft, connecting the clutch with the transmission gear, has an effectively encased universal joint at each end. The speed-changing set, bevel gear final drive and differential gear are contained within a rigid aluminum housing forming a rear axle unit. The housing is internally ribbed and is provided with inspection holes. The differential gear unit is supported by its own bearings, so that the live rear axle may be withdrawn without disturbing the gears. Three forward speeds and reverse are obtained by sliding gears, third speed forward being direct drive. Gear shifting is easily and progressively accomplished, as the actuating slide rod is annularly grooved to correspond with spring-retained spacing dogs, which determine the correct positions of gear engagement. The single speed-change lever gives the reverse by a lateral movement. All gears in the transmission, final drive and differential and the rear axle, run on imported annular ball bearings.

There are four brakes, all acting on rear wheel brake drums. The external contracting brakes are operated by a pedal for regular use, and the internal expanding brakes are operated by an emergency hand lever. A drum disc entirely encloses and protects each internal brake.

Steering is by a large hand wheel, on a large, rigid column, with worm-and-sector gear. The worm and sector are forged integrally with their respective shafts. The steering spindles and jaw type yokes are drop forgings. The steering connecting rod between the hand wheel gear and the steering knuckles is placed above the front axle to minimize jar on the hands. The steering knuckles have imported ball thrust bearings. All steering connections have grease cups.

Specification of the Chassis Foundation.

The running gear is of channel section, pressed steel; arched above the rear axle to provide ample spring action without raising the body. The top and bottom flanges of the side bars have integral gussets for the reception of the cross members. All rivet and bolt holes are drilled in full-length jigs. There are four wide, semi-elliptical springs, 40 inches long in front and 50 inches long in the rear. The front axle is steel tubing of large diameter and heavy gauge. The stationary sleeves of the rear axle are steel tubes pressed into and riveted within flanged collars bolted to the differential housing. The wheel base is 112 inches and the tread 56 1-2 inches. The tires, front and rear, are 34 by 4 inches.

The runabout wheelbase is 102 inches, instead of 112 inches. The motor and driver's seat are farther back on the frame than in the open car, to properly distribute weight. The steering post has greater rake, and the divided front seat is lower. The gasoline tank is on the rear of the frame, the gasoline feed being by a simple automatic pressure system. There is a rumble seat above the gasoline tank. The standard tire equipment is 34 by 3 1-2 front and 34 by 4 rear. Otherwise the runabout specifications are the same as the open car. The price of the Packard "Eighteen," with limousine body, in standard finish and equipment, is \$4,300; with landaulet body, \$4,400, and as an open car or runabout \$3,200.

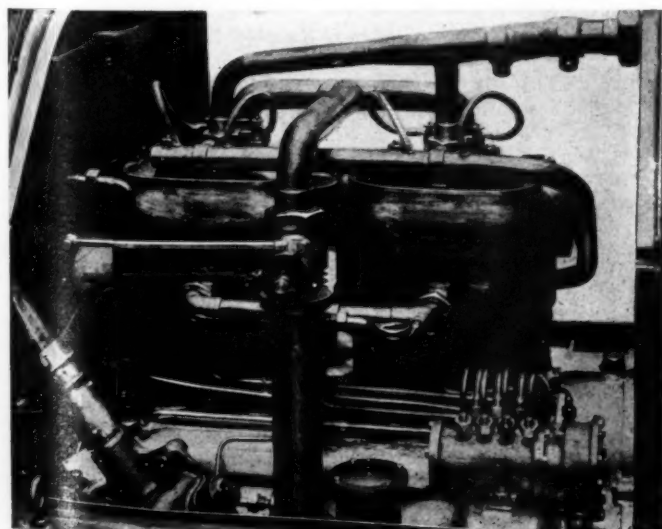


PILOTING a racing car has usually proved to be but the stepping stone to further and more substantial advances in the automobile industry, but it is not often that a racing driver branches out for himself as a designer and constructor of cars. This, however, is what Vincenzo Lancia, who is as well known on this side of the Atlantic as on the other, through his work in the Vanderbilt races, has been doing since he severed his connection with the Fiat house. The Lancia car has been on the market abroad since early in the year, and is now being handled in this country by the Hol-Tan Company, 244 West Forty-ninth street, New York, Harry Fosdick, sales-manager of the latter concern, giving special attention to its introduction here.

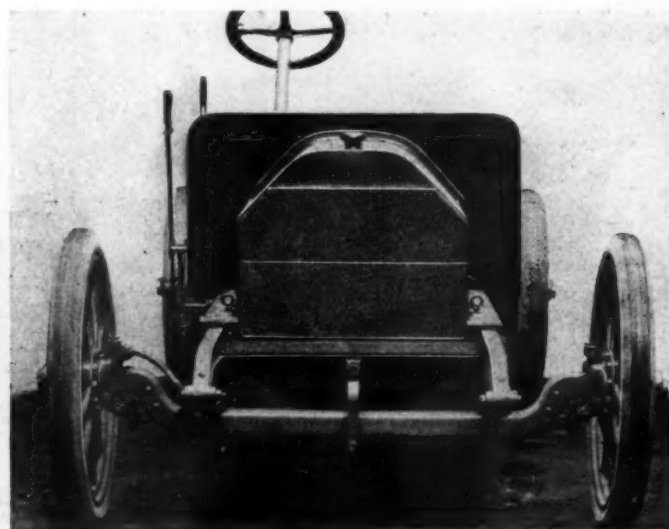
As is customary on the other side, its rating is very modest, but at 1,400 r.p.m., its compact power-plant develops 25 horsepower. The reproductions from photos shown herewith depict this small model. Its motor has the cylinders cast in pairs, the dimensions being 90 mm. by 100 mm., or 3.5-inch bore by 3.9-inch stroke, and in the majority of respects it closely follows approved Continental lines. However, it has several exclusive features, such as the twin-jet carbureter, each jet being located in a mixing chamber of its own, one being used for low speeds, while both come into action at a predetermined position of the rotary throttle located above them. The carbureter is water-jacketed and the auxiliary air valve is of the dash-pot type. A high-tension magneto is employed for ignition, which is fixed, and both the mag-

neto and water pump are placed on the valve side of the engine. The carbureter is located on the other side and a special distributing oil pump operated by a transverse shaft and skew gearing is also placed there, as shown by the accompanying photograph of the motor. Throttle control is by means of a small reel incorporated in the rim end of one of the steering wheel spokes in the manner that has become familiar on the Panhard cars, except that the reel can easily be rotated with the finger.

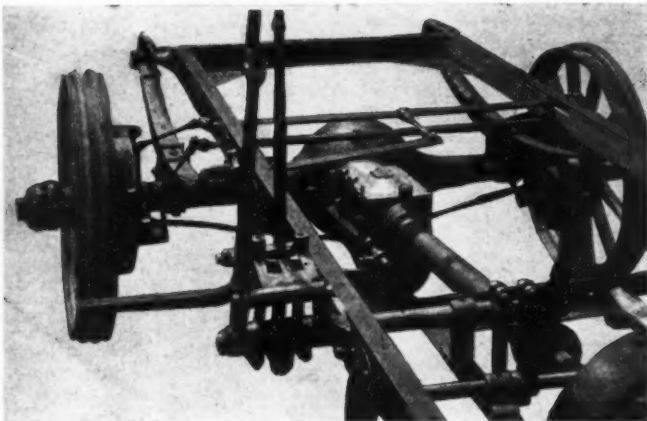
The front axle, which is of pressed steel of U-section, like the side members of the frame, and the suspension of the motor and gear-box are features of interest. The lower half of the crankcase and the gear-set housing are cast integral, provision being made for the reception of the flywheel and multiple disc clutch. The completed unit is bolted directly to the side members of the frame in six places, three on a side. Extending arms are cast at the front of the crankcase and the rear of the gear-set housing, making four points of support, while what may be termed the aluminum frame on which these two essentials rest, is also extended to touch the frame where the casting is spread to avoid the flywheel. Final drive is by shaft running in a sleeve to the live axle, which has a webbed differential case divided vertically and supported by a pressed steel torsion rod. The brakes are all of the metal-to-metal type. In addition to the foregoing model, a 30-horsepower six-cylinder car has also been on the market during the past half year or more.



Off Side of Motor, Showing Carbureter and Oiler.



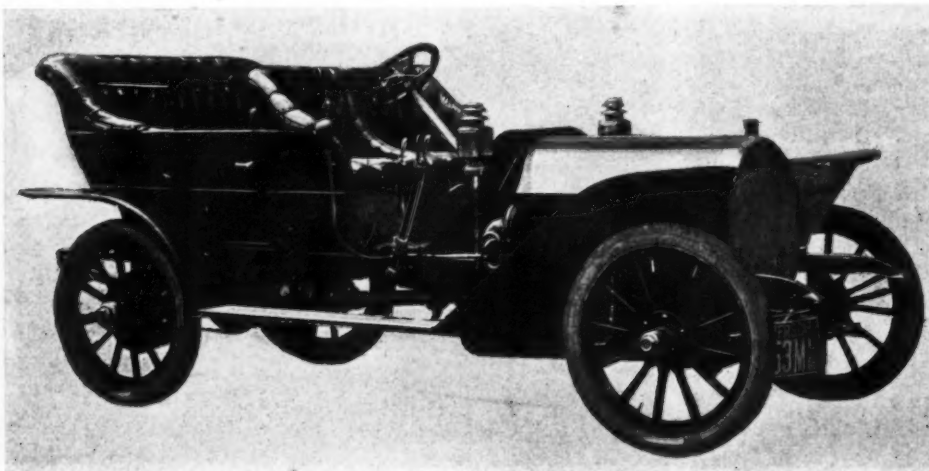
Head-On View, Illustrating the Novel Front Axle.



Correja Rear Axle Assembly, Including Gear Box.

A NEWCOMER—THE CORREJA.

A good-looking newcomer to the automobile trade is the Correja, manufactured by Vandewater & Co., of Iselin, N. J. Although of good size and ample power, it belongs in the medium price class, selling complete for \$1,900. The motor is of standard design, having its four 4-3-4 by 5-inch cylinders cast in pairs, with all valves on the right side actuated by a single camshaft. Timer and oil pump are on a vertical shaft at the rear of the motor. The spark coil and switch are mounted on the dash, which is otherwise unencumbered; dry batteries are regularly used for ignition, although provision is made for mounting a magneto as an extra. The cooling is taken care of by a square-tube honeycomb radiator with belt-driven fan and centrifugal pump. A leather-faced cone clutch and enclosed shaft transmit the power to the change-gear, which is carried on the rear axle. The three speeds forward and reverse are controlled selectively. The frame is of steel filled with wood, carried on long semi-elliptic springs. The wheelbase is 110 inches and the wheels are 34 inches in diameter, shod with 3 1/2-inch tires in front and 4-inch tires in rear. A five-passenger touring body is regularly fitted, but a runabout will also be made. The manufacturers have made no attempt to bring out any startling novelty, but rely rather on good workmanship and solid construction. In spite of the moderate selling price no expense has been spared to produce a thoroughly high-grade car; as an example may be mentioned the radiator, which is one of the costliest types made. Several of these cars are already in use in northern New Jersey and the owners report that they are giving excellent service. The company will establish agencies for the sale of the 1909 model and open up a wider territory than before, having previously confined its efforts to home territory in the marketing of its limited output.



Quartering View of the 1909 Correja as a Touring Car.

NEW MODEL OF THE POPE-WAVERLEY.

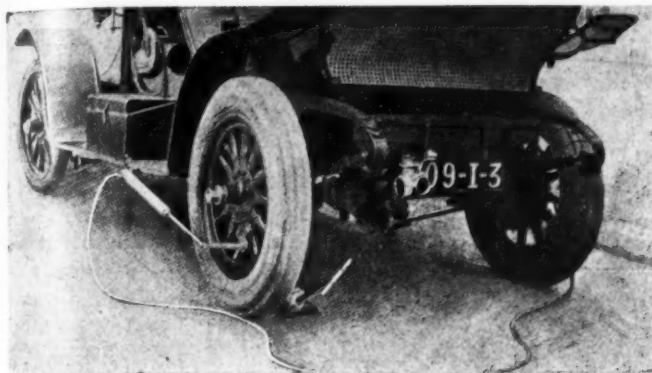
Under the title of Model 70-C, four-passenger victoria coupé, the Pope Motor Car Company, Indianapolis, Ind., has recently brought out the attractive looking electric car shown by the accompanying photograph. It is a vehicle that possesses all the adaptability of the two-passenger type for the requirements of city work, but has been designed to have a wider range of usefulness as an all-round vehicle in that it makes a comfortable and stylish equipage for theater parties or other occasions where four passengers are to be accommodated. It is quite as roomy as the conventional horse-drawn brougham, beside being much more speedy and dispensing with the coachman. Removing the coupé top transforms it into an open victoria phaeton.

The power plant consists of a single motor of special Pope-Waverley design and capable of standing an excessive overload. It is supplied with current from a battery of 30 cells of 11 plates each, 10 of the cells being placed in the forward compartment and 20 in the rear, thus making an equitable distribution of the weight which gives easy and comfortable riding. The drive is by means of the noiseless "herringbone" type of gear-



Pope-Waverley Electric Victoria Coupe.

ing that has always characterized the Pope-Waverley cars, the pinions being protected by dust-proof cases and running in oil. Steering is by side lever and a combination volt-ammeter is provided. There are two foot brakes and one electric brake. The body measures 89 inches over all, while the wheelbase is 68 inches and the tread 54 inches. The running gear consists of wood artillery wheels, 30 inches in diameter and fitted with 4-inch detachable pneumatics of standard make. The top is finished in broadcloth to match the upholstery, but can be replaced by a full leather top when desired. With a removable coupé top, the car lists at \$2,150. An excellent idea of the very attractive lines of this latest addition to the Pope Waverley family of electrics may be had from the accompanying illustration. The method employed of dividing the battery between the special compartments provided for it fore and aft, lends itself admirably to the production of a body that is not only well-balanced mechanically, but also artistically. The underbody has been freed from encumbrances in this manner, without raising the center of gravity.



Banche Tire Inflator, as Attached to Car and Applied to Tire.

TIRE INFLATOR OPERATED BY MOTOR.

PARIS, Aug. 10.—Tire inflators operated by the motor have been put on the market in such quantities that the introduction of another one, though it is a model of simplicity, will probably not make any serious difference. The Banche system, which has just been introduced to France, makes use of the ordinary hand pump with the addition of five extra parts. A metal bearing is fitted under the running-board of the car, about a foot from the rear end, and is disposed to receive a steel spindle secured by a cotter pin, a couple of inches only projecting. To the base of the pump is attached a special socket which fits on the projecting pin, a cotter pin securing it. Instead of the ordinary pump handle there is a tube screwing into a bracket permanently attached to two of the spokes of the rear wheel. The result is an ordinary pump attached to the running-board, but free to turn in its bearings, and the piston secured to an arm projecting from one of the spokes of the rear wheel. On one side of the car being jacked up, the engine started and the low gear put in, the pump goes into operation. Naturally, only three tires can be inflated with the apparatus in position. To inflate the fourth one it is necessary to transfer the pump to the opposite side, a simple matter, however, seeing that the bearings are carried under each running-board and the apparatus is reversible. The only permanent visible attachments are brackets on rear wheel.

TRACY TESTS THE G-L ECONOMIZER.

In order to show exactly what could be accomplished with the aid of the G-L Economizer, the American agents, the G-L Patent Economizer Company, retained Joseph Tracy to make a test of it under the ordinary conditions of everyday running. The purpose was to discover exactly the distance a car could be driven with the economizer in operation, as compared with the mileage it could make without this aid. The fuel used in both cases was ordinary commercial gasoline purchased at retail, the tests being made in New York City during the month of June. The car was a 24-horsepower, four-cylinder Buick and was driven over the same route in making the tests with and without the economizer in operation. The atmospheric temperature ranged between 50 and 80 degrees Fahrenheit during the course of the tests.

The carburetor was of the ordinary float feed, spray nozzle type, fitted with an auxiliary air valve. On June 16 the car used for the test was driven 17.8 miles on a gallon of gasoline, with the economizer attached, but not in operation. Two days later the same car was driven 24.6 miles per gallon over the same route and with the same fuel and conditions, except that the economizer was working, the latter accordingly showing a gain of 6.8 miles per gallon. The average speed maintained throughout the tests was about ten miles an hour, and on both occasions the car was driven on the high gear except when starting. The clutch was not disengaged in either test when the car was running down hill, the desired retardation being obtained by closing the throttle and so utilizing the braking effect of the motor.

ANOTHER "BUGGYABOUT" TYPE MAY APPEAR.

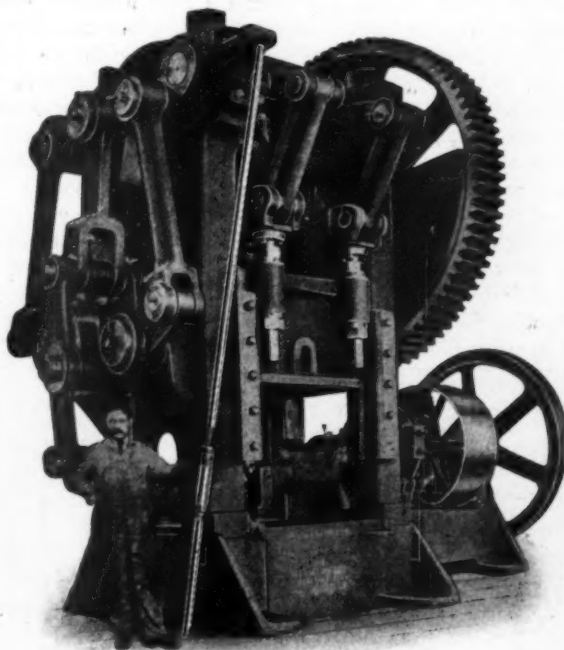
SYRACUSE, N. Y., Aug. 17, 1908.—Within a year Watertown, 70 miles north of Syracuse, will be substantially interested in the automobile manufacturing industry. The H. H. Babcock Company, one of the largest carriage-making concerns in the world, has adopted plans for an 80x25-foot building near its present large plant, and will therein manufacture gasoline engines and gears for automobiles, to later embark in the business of making the entire machines.

It is stated by the company that the style of the vehicle is more on the plan of a carriage than the present form of machine, and the car will be built with a view to comfort and lightness and ordinary road and hill climbing rather than for speed purposes, and will be sold at a comparatively reasonable figure.

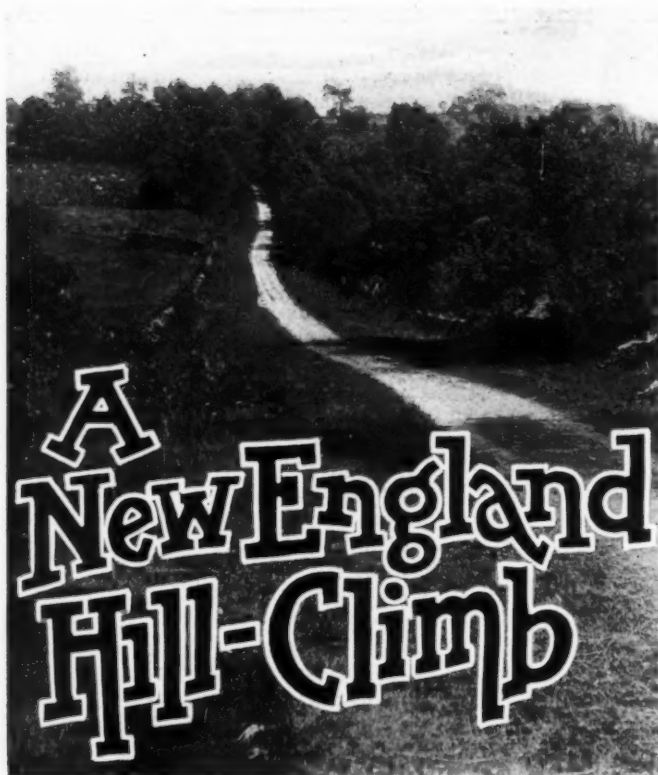
HUGE PRESS FOR STAMPING AUTO PARTS.

To the large and interesting line of heavy stamping and forming presses in operation at the works of the A. O. Smith Company, Milwaukee, manufacturers of automobile parts, has been added what is claimed to be the largest double-acting press on earth. This is an enormous double-acting toggle press, weighing more than 82 1-2 tons, measuring 23 feet in height and resting on a foundation of solid concrete extending many feet below the floor. It is liberally made of solid cast steel, and the bearings are bushed with phosphor bronze. The main shaft is forged from a billet of steel of special mixture of highest resistant qualities, and is 13 inches at its greatest diameter, with a stroke of 26 inches. This machine exerts a terrific pressure, but does it with the greatest ease. The dwell of the blank holder, when bearing down on the work, covers a greater arc of the circle than is possible with any other system of toggle action. The teeth of all the gear wheels are cut from the solid and the main shaft gear wheel is nine feet in diameter on the pitch line, five-inch circular pitch, fifteen inches face.

The press is timed to make five complete strokes per minute through a gear reduction the ratio of which is 50 to 1. The large balance wheel weighs two and a half tons, is eight feet in diameter, and runs 250 r.p.m. The machine is under complete control of the operator at all parts of the stroke. The press was designed for deep drawing of sheet steel, and especially for the making of crankcases, transmission cases, drawn dashes, axle housings, brake drums and many of the automobile shapes which are now made of aluminum.



Powerful Press Lately Installed at the Smith Plant, Milwaukee, Wis.

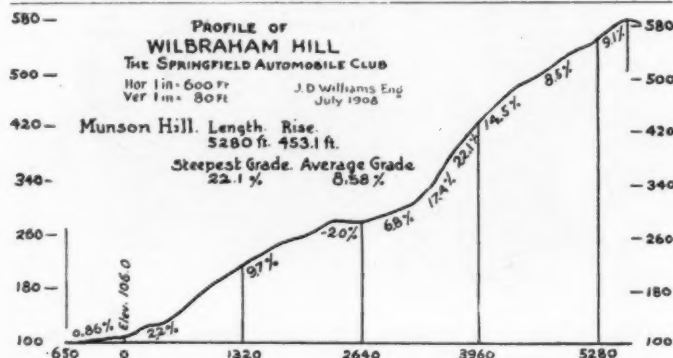


SPRINGFIELD, MASS., Aug. 17.—This city prides itself upon its auto complexion. It began making automobiles in the pioneer days of the industry, and last year it held the first good roads and good laws convention in the country, the sequence of which was the national event of a similar character, conducted by the American Automobile Association at Buffalo. Within a few miles of the city hall one can see the Stevens-Duryea, Knox, and Atlas automobiles in course of construction, and, furthermore, he can witness the making of Fisk tires and other accessories.

The Automobile Club of Springfield has been of unquestioned assistance in the progress of automobiling in this part of New England. Recently its directors decided that a hill climb would be an excellent September event. Therefore, on Friday, September 11, the autos will have an opportunity of ascending Wilbraham hill, which possesses a course a mile long and almost straightaway, with an absence of dangerous curves, and a grade which ranges from 8 to 22 per cent. The length of the hill is 5,280 feet, with a rise of 453.1 feet. Just before striking the halfway mark there is a bit of down grade which will give headway for the steepest part of the hill.

The list of events provides for various classes, and the makers will have an opportunity of trying out their 1909 models. The winner of the free-for-all will receive the president's cup, a handsome trophy offered by President Mark Aitken, who is the chairman of the committee in charge, which also includes Arthur A. Adams, Albert E. Lerche, J. Walter Norcross, and M. T. White.

Application for blanks can be had by addressing the chairman of the committee, whose post office box is No. 1,413.



TOURS ARE MANY AND VARIED.

From Nashville to Niagara Falls.—Dressed in khaki uniforms and carrying rifles, William H. Wassman and J. S. Killgore, of Nashville, and J. T. Nolen, of Chattanooga, Tenn., are making a six weeks' tour of the United States and Canada in a Rambler. Mr. Nolen is known as "band master, choir leader, assistant cook, and staff correspondent"; Mr. Killgore is "chief forager, night watchman, and assistant chauffeur," and Mr. Wassman's duties are those of "driver, chef, general utility man and quartermaster." From Nashville the party will go to Mammoth Cave, then to Niagara Falls, entering Canada and returning through New York and Philadelphia. The automobile is equipped with electric lights and fitted so the party can sleep in it during bad weather. On moonlight nights they will hang hammocks under trees by the roadside.

Antelope Hunting by Auto.—Few automobilists of the effete East can match the experience related by W. H. Brophy and M. J. Cunningham, of Bisbee, Arizona. They discovered a small herd of antelope at a distance of three or four miles while traveling across the plains in their White steamer, and set out in pursuit. When the antelope saw the car approaching they took to their heels, but after a long run they grew tired and the hunters got within range. They brought down three of the fleet-footed animals and carried them back to camp in the car. The plains on which the antelope are found are quite level and free from obstructions, and with care high speed may be made.

Traction Magnates Tour the East.—John J. Stanley and C. Loomis Allen and their families, of Syracuse, N. Y., are enjoying a three weeks' automobile tour through the Eastern States, intending to cover about 1,600 miles. Mr. Stanley is vice-president of the Utica and Mohawk Valley electric railway lines, and Mr. Allen is vice-president and general manager of the Syracuse Rapid Transit Company. This is not the first time that these magnates have taken to the automobile for their summer outings. Says Mr. Allen: "I think such a trip combines all the pleasures of an outing in one place, together with an opportunity to see the country and get right in touch with it as you could do under no other circumstances. I much prefer it to camping in the woods for three weeks."

A Transcontinental Bridal Tour.—When Mr. O. A. Newton and his wife, of Chicago, left the parsonage of a South Side church and stepped into a Rambler roadster, they began the first transcontinental automobile bridal tour on record. They will go by automobile from Chicago to New York, back to Chicago by train, and then across country again in the automobile to San Francisco. Mr. Newton's bride had a car of her own while she was at Smith College, and she will alternate with her husband at the wheel on their long trip. They will travel leisurely and visit all the large cities. Mr. and Mrs. Newton are shown in their Rambler on the first page of this issue.

Cross-County in an Electric.—Automobilists who are accustomed to regard the electric as essentially a town car should consider the recent trip of A. H. Ackermann from Albany to Utica, N. Y., in a Studebaker stanhope. No electric had ever attempted this 98-mile trip before, and the roads are so rough and the grades so steep that Mr. Ackermann was told on all sides that it was utterly hopeless. Nevertheless he accomplished the run, and that without the least trouble of any kind, not even suffering a puncture. In many of the smaller towns the car was the first electric ever seen.

Another Army Message by Automobile.—An automobile, carrying Governor Glenn's special message to Col. J. F. Armfield at Morehead City, left Raleigh, N. C., Wednesday, August 5, at sunrise. The courier, John A. Park, was accompanied by Thomas Harris, an expert driver and mechanic. The car used on the difficult journey is a Ford runabout, fully equipped; it attracted considerable attention when it appeared on the streets before the start with the flags of North Carolina and the United States flying on the dash.

O'GORMAN'S TROPHY GIVES BROOKLANDS ITS SECOND FATALITY



LONDON, Aug. 6.—The first race for the O'Gorman Trophy, donated by Mervyn O'Gorman for a contest between cars of any dimensions and power, was run at Brooklands Monday, and ended in disaster for Lane and his Mercedes. The distance was 100 miles, and two Napiers, a Darracq, a Hutton and a Deasy had been entered besides the Mercedes. Lane rushed away right at the start, followed more slowly by Newton's Napier. The Darracq soon caught fire; the Deasy had trouble with its clutch, and the Hutton, only half the power of its rivals, soon fell hopelessly behind. On the seventh round the Mercedes lapped all the other contestants, but lost its lead through stopping to change two tires. The Grand Prix Napier, which then assumed the lead, when slowing down after a tire had burst, ran off the inside edge of the banking and rolled over.

Meanwhile Newton, in the other Napier, had been increasing his speed, and by avoiding the tire troubles which the Mercedes was experiencing, he gained a big lead. When there remained but two laps for this car to cover, Lane restarted the Mercedes after a long stop and raced away at a speed estimated at over 110 miles an hour. Round the home bend he flew; but, just as he was passing Hutton on the curve, the closely watching spectators were horrified to see the Mercedes swoop down the banking, just clearing the smaller car and then hurtling through the air to the bank of the river, which at this point runs beneath the track. The mechanic was instantly killed and the driver badly hurt. The car was a hopeless wreck, and the twisted frame and axles were surrounded by flames from the burst gasoline tank. The engine was torn out of the frame and hurled fifty yards from the car. Unaware of what was happening, Newton had completed his final, winning at an average of 98 1-2 miles an hour.

Strange to relate, although this international race was not run under the so-called international rules formulated at Ostend, no one has yet proposed to disqualify the manufacturers taking part. The same tolerant attitude would doubtless have been adopted toward the Vanderbilt Cup had not the A. C. A. succeeded in obtaining a ruling for its own purposes.

The earlier part of the meet, though well attended, was robbed of much of its interest by the abandonment of the race for the Grand Prix cars, which had not attracted sufficient entries. On Saturday, the opening day, the fourth All-Comers' Handicap was won in a walk-over by the little single-cylinder, Sizaire-Naudin, driven by Naudin himself. The handicapper evidently did not realize the speed possibilities of this little car, which made an average speed of 50 miles an hour. In the future it will doubtless be set back at the scratch line with "stripped forties."

In the second Montague Cup race four Mercedes, a Darracq and a Napier started off together, and at once Lane's Mercedes took a big lead. But, as it turned out, Newton had only just received his Napier from the factory, and for that reason considered it the best policy to go quietly for a lap or two. Then he let the Napier do its best, and near the finish passed his rival, winning by not more than thirty yards. His average was 101 1-2 miles an hour, this being the first time that the hundred average has been surpassed at Brooklands.

Monday began with the August Trophy handicap, which the 30-horsepower Nagant Hobson captured, with a 70-horsepower Mercedes a far-away second. Between the heats a private match was run off between two ladies. For the three miles Miss Muriel Thompson's Austin conceded 9 seconds to Miss Ellis' Arrol-Johnston, but won by fifty yards in a fashion that won the fair driver the plaudits of the crowd.



Bookmakers Are Sanctioned at Brooklands.



Mercedes Nothing but a Mass of Junk.

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DRASTIC MEASURES MUST BE TAKEN.

In its appeal to members of out of the State clubs to respect Connecticut's model law by refraining from all reckless speeding when they tour in the "Nutmeg" commonwealth, the Automobile Club of Hartford sounds a note of warning, the effect of which should be heeded the country over, and that without delay. That the situation, where the criminally reckless use of the automobile by a few, is now very grave is evident from the fact that the national body, the American Automobile Association, has deemed it expedient to send a hurried warning to its 20,000 odd members, scattered throughout the United States, that unless matters immediately improve in this respect drastic legislation is bound to follow next winter, particularly in New York and Connecticut. Other States will naturally follow suit, and all hope of the enactment of a uniform law, or of Federal legislation, will be indefinitely deferred.

It is particularly hard on autoists in Connecticut, which is distinguished for the common-sense leniency of its law, that visitors from other States should so despicably abuse their privileges, leaving in their wake a train of righteous indignation which will react upon the innocent and guilty alike. Conservative estimates place the proportion of reckless speeders at about 10 per cent. of the autoing fraternity, and they may be divided into two classes—par-

venus with more money than sense, to whom fines are nothing, and professional drivers trying to show off for the benefit of their friends. For these irresponsibles the whole automobiling body must suffer, unless drastic measures are taken to suppress them. Scarcely a day passes but what one of this class is the moving cause of a homicide, or a suicide, though the number who meet a well-deserved fate appears to have but slight effect in depleting the ranks.

Legally, as well as morally, the man who speeds a car from 40 to 60 miles an hour on an open road, and ends by killing some one, is guilty of a homicide, but not until he is considered as such will it be regarded as anything but a pastime. But it should not be necessary to wait until some one has been killed before attempting to impress upon the members of this class that such driving may mean a jail sentence, instead of the slight pecuniary loss that has hitherto been deemed sufficient punishment. Until the 90 per cent. of law-abiding autoists combine with the authorities to suppress all such criminals the obnoxious practice of trapping will continue to snare the good and bad alike, and to keep alive the prejudice against autoists generally that would have no reason for existence otherwise.



THE JOYS OF AUTUMN TOURING.

No great poet has yet risen to sing the joys of touring. Can it be that even in these prosperous times the poets must still tramp afoot? Can they not even find some compassionate friend to give them a first taste of the road? Surely this is a grave fault, and one that for the good of our literature should be remedied. True, Mr. Kipling knows the touring spirit; he has breathed it into his song of the "Red Gods," who call from the sea, from the Northern lakes and forests, from the jungles of Burma and the snow-capped mountains. The Red Gods call no less strongly from the dusty highroad, and the city dweller hears and goes forth to seek them.

Some remember friends and relatives long unvisited; some must attend a convention in a distant city; but others there are, and these feel the truest joy, who go for love of the going—for the long, warm, quiet hours, the purr of the motor and the rush of the wind. No schedule must be kept, no record broken. They rise early, and start while the sun is still low in the East and the dew sparkles on the grass; they eat their luncheon in the shade by the roadside, and wash it down with cold water from a farmhouse well; and, in the eventide, tired and dusty and hungry, they reach the hotel and rejoice in the supper, the bath and the bed, and the deep, unbroken sleep. Nothing can mar such a day; a wrong turn at the crossroads, it means but ten miles more, and a punctured tire is a source of merriment. Two weeks, or three, mayhap, of that life and a man returns to his desk strong, browned, and clear-eyed, made ready for the work of another year by a process equaled by no other.

Many will take the road this Summer and Autumn for the first time; many others, perhaps, still hesitate, drawn by habit toward the crowded seashore, half fearing this new thing. Try it for a while, at least. Grind in the valves, if they need it; wash out the cylinders with kerosene, and pack the gear-case and differential with fresh grease. Then set out, light of load and light of heart, to learn the road that never ends.

FIRST ENTRIES FOR VANDERBILT CUP CLOSE SEPT. 1

WITH the day of the closing of the first installment of entries for the Vanderbilt Cup race drawing near, the date being September 1, the probabilities point to next week's seeing the beginning of the influx of the final nominations of candidates for blue ribbon racing honors in this country by makers seeking to avoid the double fee to be exacted after the closing up to October 1.

The progress made in the building of the 11-mile stretch of the Long Island Motor Parkway, which is to be the home-stretch of the course, and the publicity it has received in the metropolis and throughout the country, have aroused the trade and followers of the sport to the great interest New Yorkers and Americans at large are taking in the annual historic struggle.

The fame and permanent advertising to be gained by a creditable performance in the Vanderbilt Cup contest are appealing strongly to makers and more than one sees a chance, not only of an unequalled speed demonstration of his cars, but of victory itself as the outcome. Not a few are sizing it up as a chance worth taking with stripped cars that have shown themselves easily capable of maintaining an average rate over such a course that will well compare with past Long Island performances and place them far outside of the luck of the racing game.

One of the first Vanderbilt Cup cars to be taken on the road is the Acme Six, which was entered by Corder and Flinn of New York, agents for the Acme in the metropolitan district. The racer is already undergoing its preliminary tests, and as soon as enough of the new cement parkway is completed, it will

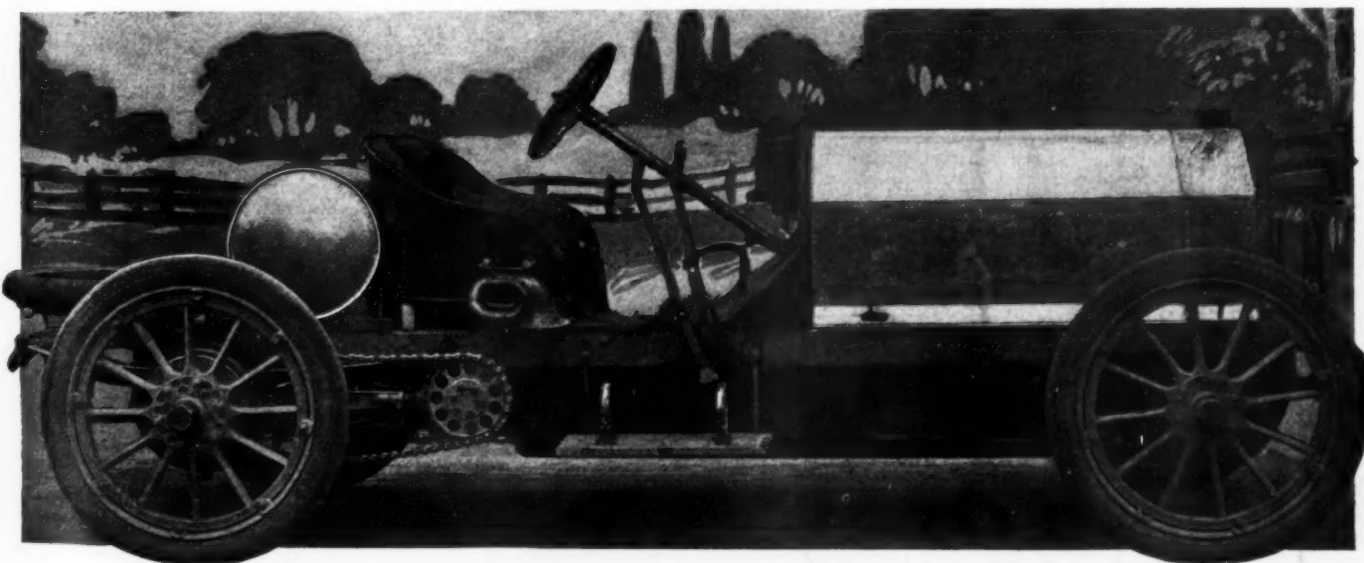
be taken out on Long Island and tried out over the course. A technical description of the car has already been given in these columns. The engineers at the Acme factory rate the engine at 60-horsepower, and it has been tested up to nearly 2,000 revolutions per minute under constant load for some time.

Club Offers Money and Reiterates Suspension.

The latest news in reference to the A. C. A. event at Savannah under European rules is in the form of an announcement that \$8,000 will be given in cash prizes to the drivers, divided into \$4,000, \$2,000, \$1,000, \$750 and \$250. It is an admitted fact that the foreign entries are not quite as plentiful as expected; hence the cash prize offers.

The press notice reiterates the threat of disqualification for Vanderbilt Cup participants "from competing in any future international races held in America or in Europe." It is apparent that the club is prepared to spend a generous amount of money in retaining its greatly prized "foreign relations."

Harry S. Houpt, head of the concern handling Thomas cars in New York City, has accepted membership on the club's contest committee. Much comment has been expressed at the presence of Mr. Houpt on the committee, in view of the fact that the non-acceptance of the so-called international rules had its principal reason in giving opportunity to the E. R. Thomas Motor Company and the Locomobile Company of America to use racing cars already constructed which would not have been eligible under other rules.



Acme Six-Cylinder Racer Entered in the Vanderbilt Cup Race by Corder & Flinn, New York City.

FRENCH NOT CRAZY TO RACE IN AMERICA.

PARIS, Aug. 10.—There is something strongly suggestive of the revivalist preacher in the methods of the European publicity writers of the Automobile Club of America. Eternal damnation in the form of disqualification from the Grand Prix, the Ardennes, the Italian races, and even all local events, is painted in lurid colors for the benefit of all those who have dared to cast their eyes towards the cup that will be competed for on Long Island in the Fall. The official publicity man has even gone to the extent of deducting 100 pounds off the maximum weight, announcing in black type that no car must weigh more than 1,100 kilograms. This caused Victor Breyer, the A. A. A. delegate in France, to break his silence, announcing that the weight had been fixed at 1,200 kilograms, and that any car which had competed in the French Grand Prix would be accepted for the Vanderbilt Cup race.

The news having got abroad that Lautenschlager was to drive in the Vanderbilt race, it was the turn of the publicity man to single him out specially, point to the error of his ways and ask him point blank to repent while there was time.

A bright note is occasionally brought into the daily epistles by a recital of the prodigious wealth of the club and the men who are behind it. After hearing into what a world of opulence they can enter by engaging in the Savannah race, the wonder is that entries do not flow. Up to the present, however, all that is announced is a list of the firms who might enter, and the list comprises every important factory in Europe. There appears to be a better understanding of the situation by European manufacturers, and, whether cursed or blessed, they can be relied upon to enter in the race which will give them the greatest amount of material benefit. Of course their American agents will have to help pay the bills, which will be considerable.



Part of State Highway for Lowell's 250-Mile Race.

LOWELL ENTRIES COMING IN RAPIDLY.

LOWELL, MASS., Aug. 17.—Present indications are to the effect that there will be little or no difficulty experienced in obtaining the maximum number of 12 entries fixed for the 250-mile road race to be held here on Labor Day, September 8, for the Butler Ames trophy. In the promotion of this, John O. Heinze, of the Heinze Electric Company and president of the Lowell Automobile Club, is the prime mover, and having successfully overcome the various obstacles which sprung up to prevent the holding of such an event on the Massachusetts highways at an earlier date, Mr. Heinze is now devoting his attention to securing entries. Up to the present, these consist of two Knox cars, drivers not nominated; an American, to be driven by Stewart; a Simplex, for which Lescault has been nominated as driver; a Zust, Al Poole's Isotta and Ralph De Palma's Fiat, while there may be a second Isotta, to be handled by Lewis Strang.

Contrary to the usual custom of starting road races as soon after daylight as possible, the cars will not be sent away until 10 A.M., and the start is to be located at one end of what is known as the "Speedway," which is a 75-foot macadam stretch paralleling the bank of the Merrimac River for two miles. This roadway forms a part of the Lowell park system and it will be turned over to the race promoters for the day. It is supplemented by a 25-foot strip separated from the main road by a grass-bordered walk and trees, which will provide unequalled facilities for parking cars, while the grandstand will be located opposite and at the end of the wide strip in order that the spectators may have a full view of the cars as they come down this broad two-mile stretch, on which phenomenal speeds are anticipated. The stand is to be 1,700 feet long and will have a seating capacity for 10,000 people, while the parking space will accommodate a large number of cars.

Upon leaving this stretch, the course strikes the State highway, which is a macadamized road winding along the Merrimac for a distance of three miles. Including the "Speedway," this constitutes what the promoters term "the main five-mile stretch," which has no turns on it that cannot be easily taken at 50 miles an hour, or better. This stretch ends at Tyngsboro bridge with

something like a hairpin turn, though the road is well made and in good condition. Here the cars will strike the backstretch, which consists of a winding country road varying from 10 to 25 feet in width, and having grades ranging as high as 10 to 12 per cent. There is only one bad feature to this part of the course, and that is the presence of the tracks of a street railway on a part of it, but no cars will be run on the day of the race. The entire highway is now being put into first-class condition by the City of Lowell, the Town of Tyngsboro, and the Massachusetts State Highway Commission.

By the day of the race the whole length of the course will have been thoroughly oiled and it will be all wired off. In addition to this protection, there will be 500 to 700 special policemen sworn in by the authorities of Lowell and Tyngsboro. Communication with the different parts of the course will be provided by five telephone stations.

The prize to be raced for is the Butler Ames trophy, presented by Colonel Butler Ames, who is a grandson of Benjamin Butler, and a partner of John O. Heinze's in the Henize Electric Company. The race was originally planned for July Fourth, but it was found that military protection could not only not be obtained, as had been anticipated, but the Massachusetts statutes prohibited the holding of such an event on the highways of the State. But the Lowell Automobile Club, under the auspices of which the race is being held, succeeded in having a special bill put through the Massachusetts Legislature, allowing the use of the public highways for a speed contest.

A ROAD RACE IN FAIRMOUNT PARK?

PHILADELPHIA, Aug. 17.—Next October this city will have a Founders' Week celebration, when all the scattered sons of the Quaker City the world over will hie them back to the old burg to participate in the enjoyable program which is already near completion. One of the sub-committees appointed is the automobile committee, W. Wayne Davis, chairman. This committee believes that the Founders' Week program will lack completeness without some red letter motor event to keep the people interested. To that end the Quaker City Motor Club, through its secretary, H. C. Harbach, has petitioned the commissioners of Fairmount Park for permission to use certain roads in the western section of that popular pleasure ground for the purpose of running off a 200-mile stock car race, the event to be decided between 6 and 10 o'clock on any morning during Founders' Week suitable to the authorities. The club proposes to defray all the expenses of such an event, in return for which it asks for the unrestricted use of the roads on the day of the race and for practice during the early morning hours of the week preceding from daylight to 7:30 A.M. City officials generally favor the scheme, and although there is a speed limit provided for in the Park regulations, there is another proviso which allows the commission to set aside the Park roads for any purposes which it may deem desirable.

Officials of the Quaker City Motor Club, before making the request of the commission, carefully ransacked West Park for a suitable course, and have already evolved a 7 1-2 mile circuit, which, with banking at some of the sharp turns and a cut-off or two, can be made as safe as the average Vanderbilt course. With an aggregate of a quarter-mile of specially built new road, the length of the course could be increased to upwards of 10 miles. Philadelphians—officials and private citizens alike—are naturally proud of their splendid park, and would hesitate to allow any event in its limits which might mar its beauty in any way. But the Quaker motorists have made it plain that while providing a grand public spectacle to add to the Founders' Week hilarity, they will do so at their own expense and restore the roads to their former condition, and there is in consequence a strong sentiment in favor of giving them a chance to make good. The commission has promised to act upon the application and announce its decision at its next meeting; and it is quite generally anticipated that this may be in favor of the race promoters, in which case entries will be obtained at once.

HOW THEY CLIMBED AT ALGONQUIN

CHICAGO, Aug. 15.—The most unique hill-climb in the country was contested yesterday at Algonquin, Ill., where the Chicago Motor Club successfully ran off its third annual contest. The star performer was F. W. Leland, in the Stearns six-cylinder, who won the trophy hung up by the citizens of Algonquin for the best total time of the day, which included the smashing of the Phillips hill record; the Apperson and Knox getting the mark on Perry hill, the standing start climb in the morning.

Chicago's hill-climb differs from others in that the majority of the events are run under a handicap formula whereby the cylinder capacity is multiplied by the time and this result divided by the weight. Then, too, there is the added novelty of a double climb, one from a standing start up Perry hill, about a quarter of a mile in length and of an average grade of 8 per cent.; while the other is a flying start one-half-mile dash up Phillips hill on the other side of the town, a sporty proposition because it is possible to go up the grade at almost unlimited speed. The two hills are totally unlike. Perry hill has an awkward turn about 100 feet from the start, so it is hard to get up any kind of speed at the beginning, while once around the turn the steepest part of the grade confronts the driver. Near the top there is another turn, but here the grade is not so steep and greater speed is possible. Phillips hill affords a fine take-off, so that as the car flashes over the tape it is at top speed. The rise is gradual, but near the top there is a bad bend which sends the big cars skidding across the road before they can square up for the dash to the tape at the finish line.

The greatest crowd that ever witnessed a Chicago Motor Club event watched the sport. There must have been fully 300 cars, most of them having been driven from Chicago. The climb was the one that was postponed from last May because of the streak of bad weather. For a time this week it looked as if another postponement might be necessary. But the crucial day was perfect so far as the weather and the temperature were concerned.

If anything the hills were

not quite as good as last May, but the drivers did not seem to mind this, for there was a general shattering of the records that speaks volumes for the speed of this and next year's crop of cars,

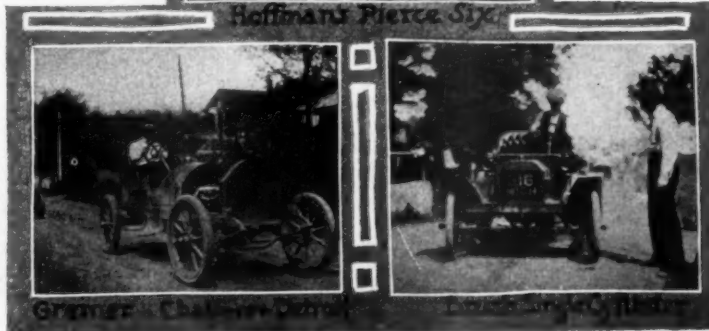
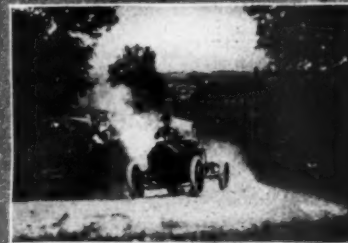
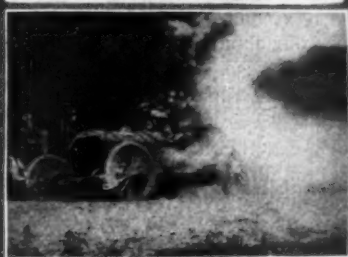
for mixed in the field were several of the new models, notably the new Chalmers-Detroit and the Model O Apperson. The Knox people had a brace of their 1909 speedsters, a big and a little one, and the latter excelled its mate.

Probably at not another climb in the country has such a brilliant field of drivers assembled. Leland, the star of the day, declared it to be the toughest proposition he had yet been asked to face, and for a time it looked as if the doughty chap from Cleveland would have his colors lowered by George Salzman in the Thomas Flyer. As it was, Salzman was beaten for the Algonquin cup by only three-fifths of a second, certainly a very close margin.

One man nearly spoiled the climb by his poor driving—C. D. Paxson, who had the wheel of a Jackson in Class D. In the morning on Perry hill Paxson showed fast work, but that he did not kill the timing corps was a miracle. He apparently lost control of his car on the last turn and shot to the left-hand side of the road at the top, cutting in between the timers' tent and the poles that held the timing apparatus. The only damage done, though, was the smashing of a megaphone and the scare given F. H. Trego, "Bick" Edwards, and several others on the tape. Instead of barring Paxson from the afternoon effort, the officials let him drive, and as a result he ran amuck at the top of Phillips hill, dashing into the crowd after the bend had been passed and seriously injuring three of the spectators. Paxson himself escaped injury, as did his car as well.

There were five handicap events on the card, two free-for-alls and two events for amateurs. The amateur field had dwindled from last May, though, and Arthur W. Greiner in the Thomas-Detroit had walkovers in both the handicap and the free-for-all. Fifty-two cars had entered, but there were several scratches. There were actually thirty-five cars in the competitions.

Six motor buggies were the first to line up, and of



these the Holsman excelled under the formula, winning first and second places in its particular class.

The Brush single-cylinder tackled a big proposition when it ran with the Buick, Chalmers-Detroit, Jackson and Moline, but it held its own, and under the formula was a winner.

The Model O Apperson, the most recent addition to the Kokomo family, more than made good. It not only won its class, but its handicap percentage was the best of all the cars that competed in the climb. In this line of doping, the Brush was second, the Corbin third, and the Buick runabout fourth.

The Thomas Flyer, Apperson Jackrabbit, and Pierce Arrow had a three-handed battle in Class E, the last of the handicap events, but for the third consecutive year the Pierce won its class laurels and was a most consistent performer.

Then came the two free-for-alls, and with it a pretty fight for the Algonquin cup. The Stearns six, Thomas Flyer, Apperson "Big Dick," the big Knox, and the Stearns four fought it out, and Leland won the class and the trophy, establishing a mark of :29 2-5 for Phillips hill, while the Thomas Flyer did :30.

The Apperson Jackrabbit and the little Knox won the time honors at Perry hill, there being a tie at :24 1-5. The previous mark was :25 3-5, made by Sulzberger in the Stearns last May, although this did not stand, the motor club calling off all performances made at the time. The Phillips hill best was :35 2-5, made last year, although this course was about 100 feet shorter.

WHITE WINS SALT LAKE FREE-FOR-ALL.

SALT LAKE CITY, UTAH, Aug. 10.—The Salt Lake City Automobile Club held a successful hill-climb last Saturday on Federal Heights. Fast times were made, and several second prizes



Stripped White Steamer Winning Free-for-All.

off last year's records in all classes. A parade was formed in front of the clubhouse to drive out to the course, and the long line of machines which answered the call bore witness to the growing popularity of the sport. There were nine events, with well-filled entry lists. Jackson, Stoddard-Dayton and Stearns carried off many honors, H. Bracken on the first-named getting first in the \$1,500 and \$2,000 classes and second in the two \$3,000 classes for stripped and fully equipped cars. Stoddard scored first in the \$3,000 and \$5,000 stripped classes, and Stearns in the \$5,000 fully equipped. J. F. Dunn's White won the free-for-all, the only event for which it was eligible, in the excellent time of 1:40. A summary of the free-for-all follows:

Car.	Owner.	Driver.	Time.
White Steamer.....	J. F. Dunn.....	F. A. Dundee.....	1:40
Stearns Six.....	A. Savage.....	A. Savage.....	1:43
Stoddard-Dayton.....	Sharnan Auto Co.....	C. Selfert.....	1:47 1-5
Pierce-Arrow.....	Samuel Newhouse.....	Bert Fuller.....	1:48 2-5
Stearns Four.....	H. B. Lamb.....	Bert Angel.....	2:13 4-5
Studebaker.....	Studebaker Bros.....	S. O. Reid.....	2:24

Prince Henry of Prussia is very content with the proposal to wind up next year's race in South Germany and to hold the speed trial on the flat in Forstenried Park, near Munich. It is quite likely that Austrian territory will be taken in as well.

BUSY DAYS WITH CHALMERS-DETROIT.

DETROIT, Aug. 17.—In the Chalmers-Detroit factory the production of 1909 cars is now going forward rapidly. Just at pres-



Busy Scene in Chalmers-Detroit Assembling Room.

ent, the manufacturing departments of the company are concentrating their attention on the Chalmers "30." Salesmanager Counselman reports that he has contracted for 2,802 cars already, 80 per cent. of them 30's. The various departments have been entirely rearranged to secure the greatest convenience in bringing together the parts. The final assembling room, a picture of which is shown above, is 200 feet long and has facilities for the setting up of 50 cars at a time. One of the new 30's is now engaged on an endurance test which should certainly demonstrate the reliability of the car. The plan is to run it two hundred miles a day for one hundred days. The course is from Detroit to Pontiac, Mich., 26 miles each way.

A COMPETITION FOR TIRE INFLATORS.

PARIS, Aug. 12.—A competition for mechanically operated tire inflators will be one of the features of the next Paris show to be held in the Grand Palais during November and December. The idea was put forth last year, but owing to the small number of entries had to be postponed. Any type of apparatus is eligible to compete provided it does not use compressed air prepared in advance. The basis on which the awards will be made is security and strength of the apparatus, 12 points; ease of adoption to automobiles, 8 points; ease with which the apparatus can be used, 12 points; weight and space occupied, 6 points; ease of attachment and dismounting and care of the apparatus, 4 points; selling price, 6 points; rapidity with which tires can be inflated, 12 points; the use of atmospheric air and conditions of its use, 12 points.



Advertising Stunt of the M. and M. Mfg. Co., Akron, O. This Car, with the Giant Bottle of M. and M. Tire Solution on the Rumble, Has Been Touring Through Michigan, Ohio and New York.



Acting Mayor McGowan Welcomes the Thomas Round-the-World Winner at the New York City Hall.

HOME-COMING OF THE ROUND-THE-WORLD WINNER

Two days of well-sustained and enthusiastic greeting signaled the home-coming of the Thomas car, victor in the Paris to New York race, and its crew. On their arrival by the *Lorraine* on Saturday morning, at the French line pier close to two score enthusiasts of prominence in the automobile world were gathered to greet them. They included representatives of the national body, the trade associations, and the local club. Harry S. Houpt and John E. Bowles, of the Harry S. Houpt Company, the entrant of the car; E. R. Thomas, of Buffalo, its maker; F. V. Faurete, of the Thomas factory staff, and Montague Roberts, who piloted it as far as Cheyenne, were the "home folks" on hand. Two of the competing cars in the race were also represented—the *Zust*, by Walter F. Sykes and A. G. Pisani, of the American company, and the *Protos*, by Paul Funke. Max Paroutoud, American correspondent of *Le Matin*, one of the promoters of the race, was also on hand.

An octette of cars was on hand to carry the crew and the greeting band to the Automobile Club of America. Into them the guests of honor—George Schuster, driver of the car; George Miller, the mechanic, and George MacAdam, who made the run with them from Seattle as correspondent of the New York

Times—were placed. The caravan then paraded up Broadway by way of the Wall street district to the Automobile Club of America, where lunch was served and congratulatory speeches made.

E. R. Thomas spoke in appreciation of the services of Schuster, Miller and MacAdam in the race, and the splendid work done by Roberts, Mathewson, and Brinker in this country. He said that the victory of the American flag was more to him than the victory of the Thomas car. He then announced the intention to enter the car in the 24-hour race.

Harry S. Houpt and John E. Bowles spoke for the Houpt Company, which was responsible for the entry of the car. Paul Funke, the *Protos* car designer, declared the Thomas well merited the victory, and that if the Germans had understood the circumstances there would have been no protest ever made against awarding it full honors. Walter E. Sykes, on behalf of the *Zust* car which competed in the race, and made a splendid showing in America, paid graceful tribute to the car and crew.

It was announced at the luncheon that the Thomas car was not only the winner of the New York to Paris race, but was likely to be awarded the prize offered by the Grand Duke Vladimir for the first car to reach St. Petersburg. It has been con-



Acting Mayor McGowan Takes the Wheel of the Thomas Round-the-World Winner in City Hall Park.

To the right are to be seen Harry S. Houpt, with E. R. Thomas alongside. Next is Reporter MacAdams, of the New York "Times." Then Montague Roberts. New York's temporary Chief Executive is at the wheel, with Schuster in the other front seat, and Mechanic Miller standing alongside.



Hoisting the Winner from the Ship's Hold.

ceded that this trophy would go to the Protos, which actually arrived in St. Petersburg first, but when the American crew was there it was said that the trophy was not for the first car to reach there from Vladivostok, but for the first car from New York to St. Petersburg, and that the trophy would be awarded by the Russian Automobile Club in accordance with the decision of the Race Committee on the main prize. The Thomas car won, as well, the cup given by the *New York Times* for the first car to reach San Francisco.

George Schuster and Montague Roberts jointly win the \$1,000 prize offered by Jefferson deMont Thompson, chairman of the A. A. A. Racing Board, to the driver who should carry the American flag first to Paris around the world. Chairman Thompson's making good his offer was sportsmanlike in the extreme and more than generous, in view of the fact that when it was made the schedule of the race called for a run through Alaska, an undertaking that the Thomas car, on its arrival in Alaska, found impossible to carry out, though of all the contestants it was the only one to make the attempt.

The uncrating of the victorious car on Monday was made the occasion of another celebration. Including a motor truck, containing a band and the victorious car, bearing Schuster, Miller, MacAdams, and Roberts, and the escorting machines, there were 24 automobiles in line. The procession paraded through Broad and Wall streets to the City Hall, where the winning crew and Messrs. Thomas, Houpt, and Bowles were received and congratulated by Acting Mayor McGowan in his office. His honor pro tem. then came out and, seated at the wheel of the victor, good-naturedly posed for the camera corps. The procession then continued up Broadway and disbanded at the Houpt garage.

At the Automobile Club of America to-night Orrel A. Parker will deliver a lecture on the race, illustrated by lantern slides. Mr. Houpt is the host of the occasion.



Thomas Emerging from Its Wooden Overcoat.

EIGHTH OF COLUMN, AMERICAN ARRIVAL, PARIS

PARIS, Aug. 10.—Germany is not yet at all reconciled to the loss of first position in the New York-Paris race, as is shown by an official protest sent to the *Matin* by the *Berliner Zeitung am Mittag*. Of course no attention can be paid to the protest, the Protos having been officially declared disqualified owing to its departure from the official route. If the Züst finishes, which is practically certain unless some unforeseen accident takes place, it will be given second position to the Thomas. All the glory the Protos can claim is in its record run from Vladivostok to Paris, where, owing to being newly fitted out and repaired, it was able to gain four days on the American car.

The feelings of France in the matter can be gauged by the fact that the *Matin* devoted an eighth of a column to the arrival of the Thomas in Paris, and other journals summarized the event in as many lines.

CAMERON A WINNER OF LIGHT CAR CHALLENGE.

BALTIMORE, Aug. 17.—As the result of the run-off of the challenge contests inaugurated by the local branch of the Ford company, the Cameron air-cooled car was the winner in two out of three, so that the cup was awarded to it without running the speed trials. The events were the result of a challenge issued by the Ford backers that they would be willing to match their cars against anything selling under \$1,500, and the fiat was given due publicity through the daily papers late in July. The challenge



Flag Which Costs Chairman J. de M. Thompson \$1,000.

was accepted by the representatives of the Cameron company, three contests being named, an economy run, a hill-climb and a speed test, the cars to be stock machines as per 1908 catalogues, the removal of the mudguards, bonnet and muffler being permitted. All other medium-powered cars were invited to compete, and the Overland was represented. In the economy test, the Cameron representatives insisted that lubricating oil consumption should also figure as a basis for the award, but this was not agreed to by the other contestants. The course was a 65-mile run over as bad roads as Maryland or any other State affords. The results were: Cameron, 1 7-8 gallons gasoline, 1 pint lubricating oil; Ford, 2 5-8 gallons gasoline; Overland, 3 5-8 gallons gasoline, the oil consumption not being stated by the others.

The climb was held on a hill measuring about 7-8-mile, with a grade averaging from 8 to 22 per cent. and with one or two very bad turns. This the Cameron won in 1:35 1-5, the Ford's time being 1:40 1-5 and the Overland, 1:55. As the winning of the two events in succession made it "two out of three straight" for the Cameron, it was decided to abandon the speed trials, much to the disappointment of the backers of the latter, who were confident of scoring another victory. The winning Cameron was a standard stock model with a 3 5-8 by 3 1-2-inch motor and the same gear-set and gear ratio as ordinarily employed. The car made the run over the road from Beverly, Mass., to Baltimore, and was entered without change.

CLUBS THAT ARE AIDING AUTOING'S PROGRESS

ADMIRABLE PLAN OF PHILADELPHIA CLUBS.

PHILADELPHIA, Aug. 17.—Following upon the meeting several weeks ago, in the quarters of the Automobile Club of Germantown, to discuss the formation of an alliance of local and nearby clubs for offensive and defensive purposes, a committee was named last week to bring about uniform action when matters of interest to all come up for consideration. The committee, which consists of one representative from each club, is made up as follows: C. H. Wheeler, chairman, Automobile Club of Germantown; Stedman Bent, Automobile Club of Philadelphia; Edwin S. Nyce, Norristown Automobile Club; John B. Bird, Delaware Automobile Association; A. H. Tomlinson, Delaware County (Pa.) Automobile Club; G. Douglass Bartlett, Quaker City Motor Club, and S. Boyer Davis, secretary and treasurer, Automobile Club of Philadelphia.

The name decided upon for the new body is the "Committee of Allied Interests of the Automobile Clubs of Philadelphia and Vicinity," and among the objects it hopes to accomplish are the preparation of road maps and route information; the erection of warning and direction signs; the repair of roads, if essential, and where it can be effected only by the automobilists themselves; the compilation of touring information, not only in regard to roads, but as to accommodations, garages, repair shops, and stations, and where gasoline and oil may be purchased, and the care of local legislation (city and township ordinances).

In the past all of the clubs represented have done more or less work, in a desultory fashion, along the lines represented above, and it was pointed out at the preliminary meeting how much more effectively—and economically—this work could be done if all hands would combine. When a matter of vital interest to motorists of this vicinity confronts the clubs in the future, there will be no separate meetings of the clubs, the naming of separate committees, and the incurring of expenditures, which, in the aggregate, would amount to quite a respectable total. Instead, the matter will be turned over to the Committee of Allied Interests, which has full power to act.

The majority of the committee are lawyers, and, in the event of the necessity for quick action in matters affecting legislation, this is a decided advantage. In such work as the signboarding of the roads, and the erection of warning notices, the saving that will be effected in the future through the impossibility of duplication will in itself be considerable.

The new committee will get to work at once and outline a system of procedure. Meetings will be held upon the call of the chairman, and with the advantage of compactness quick results may be looked for when it tackles any proposition.

MINNEAPOLIS CLUB'S INCREASING MEMBERSHIP.

MINNEAPOLIS, MINN., Aug. 17.—The Minneapolis Automobile Club, which now ranks among the foremost in the country in membership and activity, has decided upon another campaign for members. The opening of the new country clubhouse, 16 miles from the city, is the motive for the new activity, and the principal inducement offered is the remission of the initiation fee. There has been a rush of autoists to the club rolls, and it now numbers over 700 of the 1,900 automobile owners in the city. A hill-climbing contest is announced for August 29, and entries are rapidly coming in. The new rules of the A. A. A. will be used.

A PLAN TO EDUCATE THE FARMERS.

BEAVER FALLS, PA., Aug. 17.—The Beaver Valley Motor Club will give the farmers a tour over the surrounding country in automobiles on farmers' day during Old Home Week. The idea is to demonstrate to the farmers the importance of good roads and to overcome their prejudice against automobiles.

LONG ISLAND CLUB IS GAINING STEADILY.

BROOKLYN, N. Y., Aug. 17.—The annual handbook of the Long Island Automobile Club for 1908 has just been issued, and comprises an attractive little volume bound in green linen-covered boards with the name of the club stamped in gold. The frontispiece is ornamented with a half-tone plate giving portraits of President Charles Jerome Edwards, Vice-president Dr. C. B. Barker, Treasurer Louis T. Weiss, and Secretary Russell A. Field, in addition to photographs of the city headquarters and garage at 360 to 366 Cumberland street, Brooklyn, and the country home at Bay Shore, Long Island. Heading the membership list, which follows the constitution and by-laws of the club, are the names of President Roosevelt, Timothy L. Woodruff, and William J. Youngs, as honorary members. The club was incorporated November 27, 1900, and a feature to be noted in glancing through the membership list of the 1908 year book is the number of founder members who are still actively engaged in forwarding the interests of the organization. These include Louis R. Adams, A. R. Pardington, and Frank G. Webb. Another prominent member is William K. Vanderbilt, Jr., he having joined November 11, 1901.

The club may well be proud of its progress during the eight years of its existence, as represented by this latest issue of its year book. The membership is nearing the 500 mark.

MANY ENTRIES FOR BOSTON'S ENDURANCE RUN.

BOSTON, Aug. 17.—Rules and entry blanks for the twenty-four-hour endurance run which is to be conducted by the Bay State Automobile Association, September 23, were issued to-day. The run will cover a distance of approximately 275 miles, the route being from Boston to the White Mountains and return, the outward trip being along the north shore through Newburyport, Portsmouth, Rochester, North Conway and the Crawford Notch to Bretton Woods, and the return trip being through Bethlehem and the Merrimac Valley. Motors must be kept running, with the exception of a two-hour stop at Bretton Woods, and a one-hour stop at another point for luncheon.

In drafting the rules for this contest the committee has kept in mind that it is intended to be a thorough test of the reliability of the cars rather than a test of the endurance of the drivers. As it is a test of cars only, the rules permit the carrying of spare drivers and changes may be made at any of the controls upon notice to the checker. There will be three controls each way outside Boston and Bretton Woods, so the trip will not be arduous on the pilots. Another excellent feature of the rules is the requirement that the observers shall all be practical operators, acceptable to the committee. This is to insure a complete and careful record of the actual performance of each car. The test will start at 10 A.M., September 23, and is expected to finish early in the afternoon of the following day. If there is one positive winner a silver cup will be awarded; if there is a tie all perfect score cards will be given certificates. The driver making the most consistent performance will be awarded a gold watch.

During the daytime a pilot car will mark the route with confetti; at night the pilot car will carry a red searchlight on the rear and will precede the leading competing car by two minutes. There are to be two classes—A, for touring cars, and B, for runabouts, roadsters and tourabouts. Enough entries have been assured to make it evident that at least 50 cars will participate.

POPULAR SUBSCRIPTION FOR JERSEY LAW TEST.

NEWARK, N. J., Aug. 17.—Having retained the Hon. John W. Griggs, ex-governor of New Jersey and ex-attorney general under President McKinley, and Charles Thaddeus Terry, as counsel to fight the constitutionality of the obnoxious Freylinghuysen law, it has been decided by the joint committee of the

Associated Automobile Clubs of New Jersey and the New Jersey Automobile Trade Association, to make the matter a popular movement by giving Jersey autoists generally an opportunity to register a protest against such unreasonable and unfair treatment by subscribing to the fund for the payment of attorneys' fees and the costs of testing the constitutionality of the law. Subscriptions will be received by any of the committee, or by the treasurer, R. A. Greene, 90 Washington street, Newark, N. J. The committee consists of the following: W. C. Crosby, J. H. Edwards, G. F. Blakeslee, R. A. Greene, George Paddock, A. H. Darnell, George A. Post, Joseph H. Wood, secretary.

CLEVELAND CLUB TO HOLD A RELIABILITY RUN.

CLEVELAND, Aug. 17.—After considerable urging on the part of dealers in this city, the Cleveland Automobile Club has consented to act as the sponsor of a reliability run, to be held some time during September or the first part of October. The representatives of such cars as the Pierce-Arrow, Stoddard-Dayton, Knox, Chalmers-Detroit, Gaeth, Regal, Cartecar and others have promised at least one entry each, and are enthusiastic over the project. A few years ago, Cleveland was a center of automobile events of all kinds, and now it is coming to life again.

WORCESTER CLUB HAS NEW SECRETARY.

WORCESTER, MASS., Aug. 17.—Herbert M. Sawyer, until recently secretary of the Board of Trade, has been notified of his election to the office of secretary of the Worcester Automobile Club. He will enter upon the duties of his new position this week. Mr. Sawyer will also be made a director of the club, in order that he may represent it at legislative hearings and meetings of State clubs and associations. In the past most of this work fell upon John P. Coughlin, president of the club.

NEW JERSEY CLUB IS OILING ROADS.

TRENTON, N. J., Aug. 17.—The Mercer County Automobile Club is furnishing and applying oil to some of the country roads, as an experiment in abating the dust nuisance. It is hoped that this method will be adopted by the State in all road construction. This will also preserve the farmers' crops from injury by the dust which settles, and incidentally blinds the automobilist who is in the wake of another car. This example should be followed by other automobile clubs, as it helps to secure better legislation.

OILING ROADS IN COUNCIL BLUFFS, IA.

COUNCIL BLUFFS, IA., Aug. 17.—At a meeting of the recently organized automobile club of this city it was decided to make the experiment of oiling McPherson avenue from the Chicago, Milwaukee & St. Paul tracks to the paving on East Pierce street. The cost is estimated at \$150.

HARTFORD CLUB'S PROTEST BRINGS RESULTS.

HARTFORD, CONN., Aug. 17.—As the result of the constant and bitter complaint that has been made for some time past by prominent members of the Automobile Club of Hartford, the notorious "hen-coop bridge" stretch is to receive attention, and others that are in the same class with it will be repaired. The Highway Commissioner has been stirred to action, and the bad spots will be taken in hand at once.

FORTY ENTRIES FOR BRITISH FOUR-INCH RACE.

LONDON, Aug. 12.—Total entries for the British Four-Inch Race, the limited bore event to be held on the Isle of Man, Thursday, September 24, stand at 40, five additional cars having been put in at double fees. The late comers are two S. C. A. T., a Vinot, a Piccard, and a Rover. The course on which the race is to be held is about 38 miles round; having to be covered nine times the exact total distance is 350 miles. A large portion of the old Tourist Trophy route has been selected.

REMARKABLE ECONOMY DEMONSTRATED.

HARRISBURG, PA., Aug. 17.—The first economy test of the Motor Club of Harrisburg, held last Saturday, brought forth some splendid records, a single-cylinder Cadillac, a 1903 model, being used as a grocerman's delivery wagon, securing a mileage of 38 1-2 miles on the gallon of gasoline allotted to each contestant in the test. Andrew Redmond, driving a Columbus electric in the electric class, covered the remarkable distance of 140 miles on a single charge, requiring twelve hours for making the run, as the cars most economical speed was 12 miles.

The contest was held over a four-mile course laid out on the paved streets of the city, and attracted more attention than any other contest ever held in Central Pennsylvania. Splendid scores were made in all the classes, the only requirements being that the cars should carry capacity of passengers and travel around the course until the gallon of gasoline had given out. This contest will be followed by a road test of 100 miles in September. There were eight classes, and the results were as follows:

CLASS NO. 1—SINGLE-CYLINDER CARS.

1. Cadillac.....	Harrisburg Auto Co.....	23.9
2. Reo.....	George W. Myers.....	38.5

CLASS NO 2—TWO-CYLINDER RUNABOUTS.

1. Jackson.....	Motor Vehicle Co.....	31.6
2. Maxwell.....	John Sellers.....	31.3
3. Ford.....	C. L. Scott.....	26.5

CLASS NO. 3—TWO-CYLINDER TOURING CARS.

1. Maxwell.....	Andrew Redmond.....	33.2
2. Jackson.....	Motor Vehicle Co.....	30.2
3. Maxwell.....	F. H. Baumgardner.....	18.3

CLASS NO. 4—FOUR-CYLINDER RUNABOUTS UNDER \$1,000.

1. Buick.....	Central Pennsylvania Auto Co.....	28.6
2. Ford.....	Harrisburg Auto Co.....	22.4

CLASS NO. 5—FOUR-CYLINDER RUNABOUTS, \$1,000 TO \$2,000.

1. Franklin.....	Paul Messner.....	32.6
2. Pullman.....	Robert Morton.....	24.2

CLASS NO. 6—FOUR-CYLINDER TOURING CARS UNDER \$2,000.

1. Pullman.....	J. A. Kline.....	27.3
2. Franklin.....	Frank Oenslager.....	21.5

NO. 7—FOUR-CYLINDER TOURING CARS, \$2,000 OR OVER.

1. Cadillac.....	C. C. Crispen.....	27.5
2. Franklin.....	Central Pennsylvania Auto Co.....	17.5
3. Pullman.....	W. F. Graupner.....	15.8
4. Stoddard-Dayton.....	J. M. Jaycox.....	13.6

CLASS NO. 8—FOUR-CYLINDER RUNABOUTS, \$2,000 OR OVER.

1. Cleveland.....	G. L. Strayer.....	20.2
2. Pullman.....	E. G. Irvin.....	19.0

CLASS NO. 9—(Exhibition Run on Single Charge.)

1. Columbus Electric.....	Andrew Redmond.....	140.0
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A WESTERN NEW YORK SPEED TRAP.

FREDONIA, N. Y., Aug. 17.—Practically the whole township of Portland, which is between Fredonia and Westfield, is interested these days in trapping the unsuspecting autoist. Portland is on the main road between Buffalo and Erie and is traveled by many automobilists, who in the future will do well to inquire at Fredonia when westward bound as to the operating of the Portland trap, and when coming eastward the same sort of inquiry should be made at Westfield. Rather than waste time in fighting the trap, the average autoist has contributed to the Portland town treasury, and continued his journey in a cussing frame of mind.

WHITES CARRY PORTO RICO PASSENGERS.

Charles H. Martin, who several years ago established a line of Knox 'buses between Ponce and San Juan, is back in Porto Rico. He has been there a month engaged in re-establishing an automobile passenger line between these two points. This time he is acting as agent for the New York branch of the White Company. Already enough White steamers have been installed to insure a daily trip each way. Touring cars only are used, as only passenger traffic is sought. Mr. Martin is engaged in the formation of a local motor transportation company between the points named.

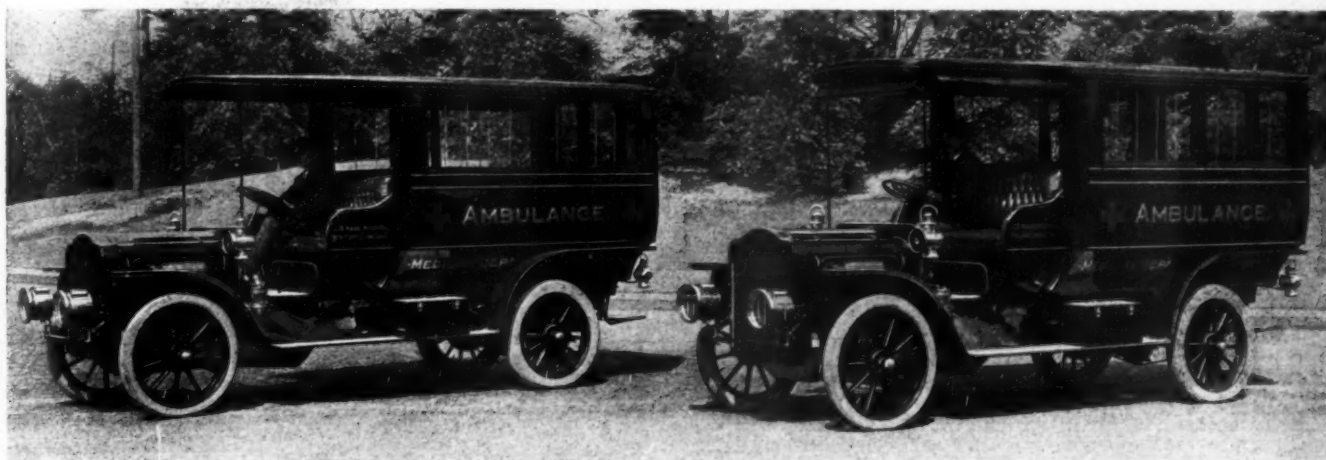
A. A. A ISSUES GENERAL WARNING AGAINST RECKLESS DRIVING

NEW YORK, Aug. 15.—The American Automobile Association has sent a hurried notice to its 20,000 odd members, scattered throughout the country, to the effect that drastic anti-automobile legislation will be enacted in several of the eastern States, and particularly Connecticut and New York, at the coming sessions, if reckless speeding is not stopped. This action grows out of the request made by Secretary G. K. Dustin, of the Automobile Club of Hartford, that visiting autoists respect the law of Connecticut, as otherwise it would be repealed, as well as out of attitude of the authorities of Nassau county, Long Island, who are determined to suppress reckless driving to the common danger. The Association has always condemned speeding, and the attitude of President W. H. Hotchkiss, and Charles T. Terry, of the Legislative Board, has been made public on numerous occasions during the past year.

On Wednesday last, Mr. Terry and Secretary Elliott attended a hearing before the supervisors of Nassau county, who have announced that they will send all speeders to jail, unless the A. A. A. and its affiliated clubs can bring about the necessary reform by moral suasion. The Long Island Automobile Club was represented by F. G. Webb, chairman of the club's committee on public safety; W. P. Richardson, L. T. Weiss, Russell A. Field and C. C. Cluff, while the Vanderbilt cup commission

was represented by Chairman Jefferson de Mont Thompson and A. R. Pardington. The representatives of the different automobile bodies present were all thoroughly in accord with the attitude of the Nassau county supervisors, which reflects, in a large measure, that of local authorities all over the country. Halstead Scudder, counsel to the board, stated that he had been authorized by the supervisors to notify the representatives of all automobile bodies that speeding must stop at once, or the most extreme measures permitted by the law will be enforced. Mr. Scudder has been collecting statistics of the fatalities on Long Island due to speeding, and divides them into murder, homicide, suicide and assault with intent to kill, classifying the autoist who drives a machine without respect to the rights of other vehicles at crossings as a plain outlaw, bent upon murdering some other user of the highway, or on committing suicide.

In its warning, the American Automobile Association states that it is the duty of every one of its members to heed it personally, as if the present undercurrent of feeling is allowed to grow and spread, it will result in the enactment of laws in the different States, of so radical and violent a character, that it will be impossible for the Association to ever secure the passage of a Uniform State motor vehicle measure, or a Federal Automobile bill, for which it is now putting forth every effort.



Two White Steamer Ambulances Which Have Been Built for the U. S. Navy.

AUTO TRANSPORTS ONLY IN FRENCH ARMY MANEUVERS

PARIS, Aug. 12.—For a period of fourteen days over 100,000 men will be dependent on the automobile for food and drink, the French army authorities having decided to use mechanical means of transport exclusively in the next maneuvers to be held in the neighborhood of Blois, Tours, and Chateaux. A total of eighty vehicles are required to carry victuals to the 4th, 5th, 8th and 9th army corps which will be in the field. As the army does not possess this number of vehicles, an appeal has been made to manufacturers to meet the deficiency by the loan of automobile trucks and drivers.

Although the pecuniary advantage is but slight, there is little doubt but that the eighty trucks will be supplied by French manufacturers, and that the horses of the army service corps will be left without work during the military operations. The indemnity to manufacturers is at the rate of 20 cents per horsepower per day, fuel, oil and grease being provided by the army. Drivers are allowed a special indemnity of 50 cents per day, which is really handsome treatment compared with the one of five cents received by the privates in line regiments. In practically every case the men having charge of the military auto-

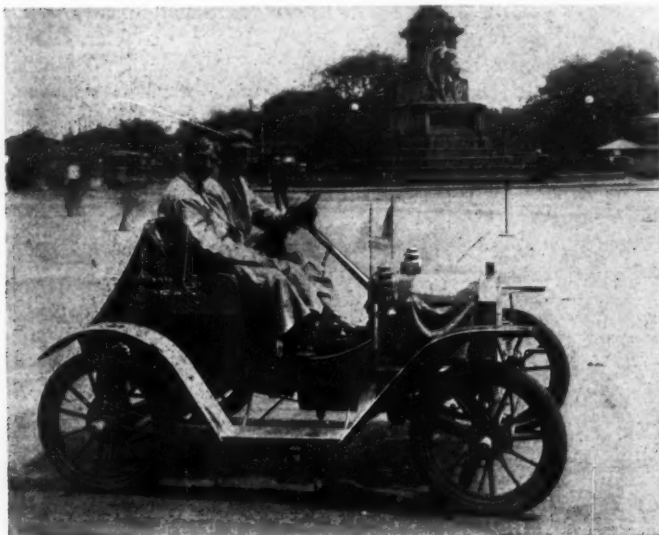
mobiles will be workmen of the firm engaging their vehicle, who are liable for service as reservists in the standing army. Special facilities are allowed by which men who would normally have to pass 15 or 28 days in some other branch of the army are allowed to fulfil their military duties at the wheel of one of their employer's army service wagons.

The usual method of procedure during the maneuvers is for the automobiles to be divided up into groups according to their power and speed, a certain number being allotted to each army corps. Every morning at daybreak the automobile convoy, under the charge of an officer who regulates the speed and sets the line of march, starts out for the camp which it is required to furnish with provisions, and water if necessary. The average distance from the base to the fighting line is from 30 to 35 miles. It is not always over the main roads, for as the troops move away from the centers of civilization the wagons have to follow them. Usually by noon the loads have been discharged, and after lunch at the camp or on the roadside the convoy sets out empty for the army base. If there is any necessity for it, the sick men of the troops are carried back to the headquarters.



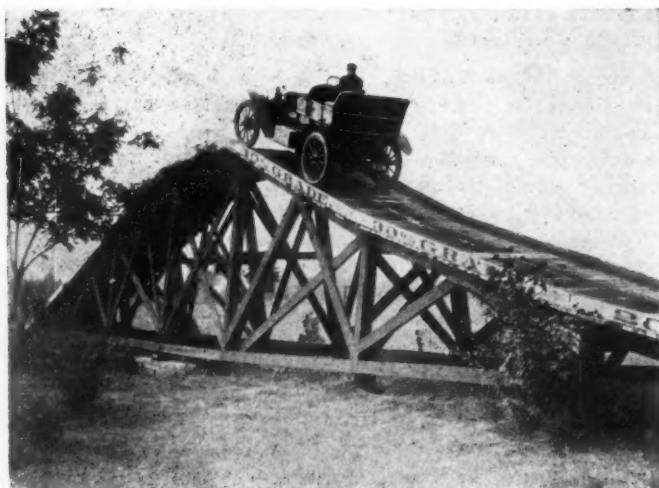
Navajo Indians Up-to-Date Transported.

This party of Navajo Indians in the Studebaker Truck Was Photographed During the Meeting of the National Education Association in Cleveland. They Seem to Be Enjoying Themselves.



Brush Runabout in Columbus Circle, New York.

Car No. 1, of the five single-cylinder Brush Runabouts and Delivery Wagons Which Left Detroit Recently for Various Parts of the Country. Arrived in New York in Good Condition and Continued on Its Way to Boston.



Strenuous Hill-Climb Test for Ramblers.

All Rambler Cars Before Leaving the Factory Must Prove Their Hill-Climbing Ability on This Inclined Track, with Grades of 20, 30 and 40 per cent.

CANADIAN ARMY WILL HAVE AUTO CORPS.

MONTREAL, Aug. 10.—The experience of the Canadian Army Service Corps with automobile transportation at Quebec's recent tercentenary celebration will probably result in the establishment of an automobile corps like that in England. Colonel Biggar, the chief of the Service Corps, will go to England on special leave to study the system in force there. It is proposed that all automobiles and traction engines in use in Canada be registered at Ottawa for this purpose.

RACE MEET TO BE HELD AT MONTREAL.

MONTREAL, Aug. 10.—R. M. Jaffray, acting for the Automobile Club of Canada, is promoting a three-day race meet and gymkhana, to be held in Montreal August 28, 29, and 30. The fast and well-banked track at Delormier Park has been secured and a large number of entries are assured.



"Great Western" Tackling a Tough Climb.

The Testing Track of the Model Automobile Company Seems to Run through a Washed-Out River Bottom. This Is Only a Part of the Test Given All of This Company's Cars.

DEFY N. A. A. M., A. M. C. M. A., AND A. A. A.

The Motor Racing Association, a New York organization, made up of four importers, two makers, and two local agents, first organized as the Metropolitan Motor Association, has decided to run its two-days' meet at the Brighton Beach track on Friday and Saturday, September 18 and 19.

At the meeting last Friday night, at which the dates were fixed, it was decided to ask for no sanction from the race governing body. The reasons for this action are stated in the official announcement of the proceedings to be: "In order to obviate the necessity of taking sides in the existing controversy between the A. A. A. and the A. C. A., it was decided to hold the meet without asking for the sanction or approval of any organization." This is in opposition to the policy of supporting the national body, formally decided upon by the N. A. A. M. and the A. M. C. M. A., representing the American trade.



Carter-car Automobile Stage Which Daily Climbs Mount Hamilton.

Climbing Mount Hamilton.—To the thousands of tourists who visit California every year one of the most interesting side trips is that up Mount Hamilton to the world-famous Lick Observatory. Heretofore this has always meant a long and tedious journey, as a stage coach was the usual means of ascending the mountain, and many have grown discouraged and abandoned the trip when they discovered this. Such was the state of affairs when John H. McGehee, of Lechter's Garage, San José, was struck by the idea that an automobile stage would be an improvement. After considerable investigation he decided to purchase a friction-driven Carter-car for the purpose. The photograph shows the car at its daily work. The road has an elevation of 2,100 feet in a distance of seven miles. Although the picture was taken in July, it shows the ground and shrubbery covered with snow.

Another Packard Stunt.—Still looking for new worlds to conquer, the Packard Motor Car Company has established another testing route on the old State Road between Philadelphia and Pittsburg. Automobilists who have toured in all parts of the country agree that no known route affords finer scenery, with every kind of going, good, bad and indifferent, than this. The Packard camp is located at McConellsburg, and a number of cars of different types are at present undergoing speed and endurance trials there. In charge of operations are H. B. Joy, the general manager; S. D. Waldron, assistant general manager, and M. J. Budlong and E. M. Moriarity, representatives in New York and Kansas City, respectively.

Carriage Builders Take Up Autos.—The C. T. McCue Company, Hartford, Conn., which has been prominent in the manufacture of running gears for horse-drawn vehicles for a number of years, has decided to take up the building of automobiles. It is understood that most of the parts for the new car, which is to be known as the McCue-Hartford, are to be supplied by the Billings & Spencer Company, F. C. Billings, of the latter firm, also being vice-president of the McCue Company, and that the latter will merely assemble. The new car is an attractive looking machine, and it is understood that

an initial order for thirty like it has already been received from the South.

Logan Reorganization.—B. A. Gramm and Fred Bisantz, formerly engineer and superintendent, respectively, of the Logan Construction Company, Chillicothe, O., which recently failed, have organized the Gramm-Logan Motor Car Company, which will be located in the northern part of Ohio. The plant has already been erected, and announcements will soon be made.

Tires in the East Indies.—The experts of the Netherlands Rubber Company, of Singapore, Straits Settlements, who have been investigating the various makes of tires upon the market, have finally decided to adopt the Swinehart. This Akron, O., company claims that fully 90 per cent. of the solid tires for automobiles made in the world are made under its patents.

Winton Prize Contest.—The second annual \$2,500 prize contest for Winton Six Chauffeurs will start November 1, 1908, and end June 30, 1909. Any employed driver of a Winton Six, whether of the 1908 or the 1909 model, is eligible to compete. The contest follows the same plan as the last one, the results of which were announced recently.

Premier Home Again.—The "100 Miles for 100 Days" Premier, which acted as press car with the Glidden Tour, has returned to Indiana, and is now making a tour of the cities near Indianapolis. The car has already covered three-quarters of the intended distance. It is still using one of the original set of Fisk clincher tires.

Postal to Be Built in Cincinnati.—The Postal Auto & Engine Company, of which Clarence E. Runey is president, and which builds the Postal buggy type of car, is now removing its plant to Cincinnati. New models for the season of 1909, consisting of several additions to the Postal line, will shortly make their appearance.

Logan Company Fails.—The Logan Construction Company, of Chillicothe, O., which is engaged in the manufacture of automobiles and auto-trucks, has filed a petition in bankruptcy, with assets of \$69,000 and liabilities of \$120,000.

Waukesha Company Enlarges.—The Waukesha Motor Company, of Waukesha, Wis., are completing designs for a new

building to be erected in Waukesha, which will triple their present capacity.

IN AND ABOUT THE AGENCIES.

Atlas.—The Atlas Motor Car Company, of Springfield, Mass., has discontinued its agency in New York, and has established a branch house at 1876 Broadway, under the management of E. H. Sherwood, formerly with the Aerocar.

Autocar.—Beginning September 1, the Autocar, formerly represented in Philadelphia by the General Motor Car Company as agents, will be exploited in the Quaker City through the medium of a branch.

Peerless.—The Peerless agency in Boston is preparing to enlarge their salesrooms by taking over the adjoining store, which was previously occupied by the Diamond Rubber Company.

Panhard Oil.—The G. A. Haws Company announces the appointment of the Beckley-Ralston Company, 80 Michigan avenue, Chicago, as Chicago distributors for Panhard oil.

Cadillac.—The Lubeck Automobile Company, of Grand Rapids, Mich., has taken over the agency for the Cadillac, formerly sold in that city by C. J. Bronson.

Lozier.—On September 1 the General Motor Car Company, agents for the Lozier in Philadelphia, will remove to the new building at 227-229 North Broad street.

Havoline Oil.—T. E. Hamilton has opened a salesroom on Boylston street, Boston, Mass., and will handle Havoline oils exclusively.

PERSONAL TRADE MENTION.

James E. Murray, secretary of the New York Sporting Goods Company, 17 Warren street, New York, has returned from a two-months' vacation in New Hampshire. He will be pleased to have manufacturers of accessories send 1909 quotations for the company's new catalog.

Robert Morton, who has been acting as head inspector and tester for the Pullman Company, of York, Pa., will in the future be attached to the staff of the Keystone Motor Car Company, and will look after the Pullman interests in Harrisburg.

F. A. Babcock, Jr., has succeeded C. M. Atterbury as manager of the Chicago branch of the Babcock Electric Carriage Company, 1330 Michigan avenue. Mr. Babcock has started on a tour of inspection of the various agencies in his district, covering the whole distance in a Babcock.

Alexander Winton received an unusual honor last Saturday at the hands of the Lakewood Yacht Club, of Cleveland, of which he is commodore. That day was set apart as "Commodore's Day," and was celebrated with a squadron sail, salutes, etc.

Percy Owen has joined the sales forces of Carl H. Page & Company, Broadway and Fiftieth street, who are agents for the Chalmers-Detroit line. He will also continue to handle the Bianchi.

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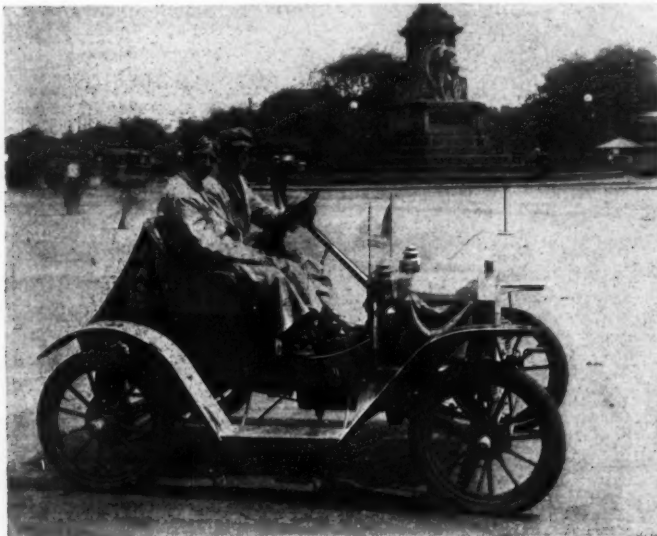
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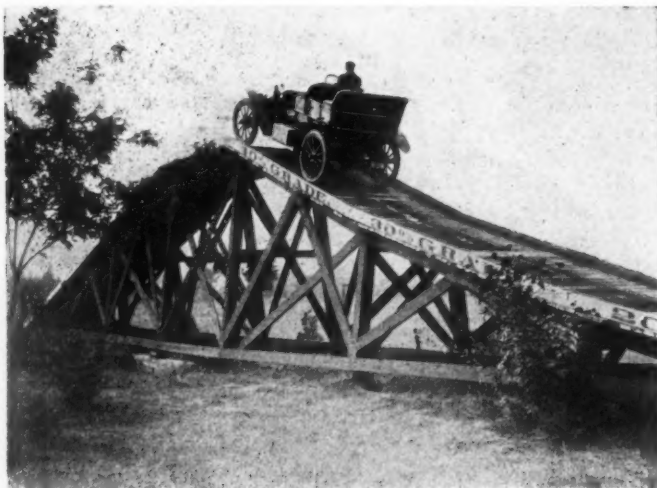
Navajo Indians Up-to-Date Transported.

This party of Navajo Indians in the Studebaker Truck Was Photographed During the Meeting of the National Education Association in Cleveland. They Seem to Be Enjoying Themselves.



Brush Runabout in Columbus Circle, New York.

Car No. 1, of the five single-cylinder Brush Runabouts and Delivery Wagons Which Left Detroit Recently for Various Parts of the Country, Arrived in New York in Good Condition and Continued on Its Way to Boston.



Strenuous Hill-Climb Test for Ramblers.

All Rambler Cars Before Leaving the Factory Must Prove Their Hill-Climbing Ability on This Inclined Track, with Grades of 20, 30 and 40 per cent.

CANADIAN ARMY WILL HAVE AUTO CORPS.

MONTREAL, Aug. 10.—The experience of the Canadian Army Service Corps with automobile transportation at Quebec's recent tercentenary celebration will probably result in the establishment of an automobile corps like that in England. Colonel Biggar, the chief of the Service Corps, will go to England on special leave to study the system in force there. It is proposed that all automobiles and traction engines in use in Canada be registered at Ottawa for this purpose.

RACE MEET TO BE HELD AT MONTREAL.

MONTREAL, Aug. 10.—R. M. Jaffray, acting for the Automobile Club of Canada, is promoting a three-day race meet and gymkhana, to be held in Montreal August 28, 29, and 30. The fast and well-banked track at Delormier Park has been secured and a large number of entries are assured.



"Great Western" Tackling a Tough Climb.

The Testing Track of the Model Automobile Company Seems to Run through a Washed-Out River Bottom. This Is Only a Part of the Test Given All of This Company's Cars.

DEFY N. A. A. M., A. M. C. M. A., AND A. A. A.

The Motor Racing Association, a New York organization, made up of four importers, two makers, and two local agents, first organized as the Metropolitan Motor Association, has decided to run its two-days' meet at the Brighton Beach track on Friday and Saturday, September 18 and 19.

At the meeting last Friday night, at which the dates were fixed, it was decided to ask for no sanction from the race governing body. The reasons for this action are stated in the official announcement of the proceedings to be: "In order to obviate the necessity of taking sides in the existing controversy between the A. A. A. and the A. C. A., it was decided to hold the meet without asking for the sanction or approval of any organization." This is in opposition to the policy of supporting the national body, formally decided upon by the N. A. A. M. and the A. M. C. M. A., representing the American trade.



Carter-car Automobile Stage Which Daily Climbs Mount Hamilton.

Climbing Mount Hamilton.—To the thousands of tourists who visit California every year one of the most interesting side trips is that up Mount Hamilton to the world-famous Lick Observatory. Heretofore this has always meant a long and tedious journey, as a stage coach was the usual means of ascending the mountain, and many have grown discouraged and abandoned the trip when they discovered this. Such was the state of affairs when John H. McGehee, of Lechter's Garage, San José, was struck by the idea that an automobile stage would be an improvement. After considerable investigation he decided to purchase a friction-driven Carter-car for the purpose. The photograph shows the car at its daily work. The road has an elevation of 2,100 feet in a distance of seven miles. Although the picture was taken in July, it shows the ground and shrubbery covered with snow.

Another Packard Stunt.—Still looking for new worlds to conquer, the Packard Motor Car Company has established another testing route on the old State Road between Philadelphia and Pittsburg. Automobilists who have toured in all parts of the country agree that no known route affords finer scenery, with every kind of going, good, bad and indifferent, than this. The Packard camp is located at McConellsburg, and a number of cars of different types are at present undergoing speed and endurance trials there. In charge of operations are H. B. Joy, the general manager; S. D. Waldron, assistant general manager, and M. J. Budlong and E. M. Moriarity, representatives in New York and Kansas City, respectively.

Carriage Builders Take Up Autos.—The C. T. McCue Company, Hartford, Conn., which has been prominent in the manufacture of running gears for horse-drawn vehicles for a number of years, has decided to take up the building of automobiles. It is understood that most of the parts for the new car, which is to be known as the McCue-Hartford, are to be supplied by the Billings & Spencer Company, F. C. Billings, of the latter firm, also being vice-president of the McCue Company, and that the latter will merely assemble. The new car is an attractive looking machine, and it is understood that

an initial order for thirty like it has already been received from the South.

Logan Reorganization.—B. A. Gramm and Fred Bisantz, formerly engineer and superintendent, respectively, of the Logan Construction Company, Chillicothe, O., which recently failed, have organized the Gramm-Logan Motor Car Company, which will be located in the northern part of Ohio. The plant has already been erected, and announcements will soon be made.

Tires in the East Indies.—The experts of the Netherlands Rubber Company, of Singapore, Straits Settlements, who have been investigating the various makes of tires upon the market, have finally decided to adopt the Swinehart. This Akron, O., company claims that fully 90 per cent. of the solid tires for automobiles made in the world are made under its patents.

Winton Prize Contest.—The second annual \$2,500 prize contest for Winton Six Chauffeurs will start November 1, 1908, and end June 30, 1909. Any employed driver of a Winton Six, whether of the 1908 or the 1909 model, is eligible to compete. The contest follows the same plan as the last one, the results of which were announced recently.

Premier Home Again.—The "100 Miles for 100 Days" Premier, which acted as press car with the Glidden Tour, has returned to Indiana, and is now making a tour of the cities near Indianapolis. The car has already covered three-quarters of the intended distance. It is still using one of the original set of Fisk clincher tires.

Postal to Be Built in Cincinnati.—The Postal Auto & Engine Company, of which Clarence E. Runey is president, and which builds the Postal buggy type of car, is now removing its plant to Cincinnati. New models for the season of 1909, consisting of several additions to the Postal line, will shortly make their appearance.

Logan Company Fails.—The Logan Construction Company, of Chillicothe, O., which is engaged in the manufacture of automobiles and auto-trucks, has filed a petition in bankruptcy, with assets of \$69,000 and liabilities of \$120,000.

Waukesha Company Enlarges.—The Waukesha Motor Company, of Waukesha, Wis., are completing designs for a new

building to be erected in Waukesha, which will triple their present capacity.

IN AND ABOUT THE AGENCIES.

Atlas.—The Atlas Motor Car Company, of Springfield, Mass., has discontinued its agency in New York, and has established a branch house at 1876 Broadway, under the management of E. H. Sherwood, formerly with the Aerocar.

Autocar.—Beginning September 1, the Autocar, formerly represented in Philadelphia by the General Motor Car Company as agents, will be exploited in the Quaker City through the medium of a branch.

Peerless.—The Peerless agency in Boston is preparing to enlarge their salesrooms by taking over the adjoining store, which was previously occupied by the Diamond Rubber Company.

Panhard Oil.—The G. A. Haws Company announces the appointment of the Beckley-Ralston Company, 80 Michigan avenue, Chicago, as Chicago distributors for Panhard oil.

Cadillac.—The Lubeck Automobile Company, of Grand Rapids, Mich., has taken over the agency for the Cadillac, formerly sold in that city by C. J. Bronson.

Lozier.—On September 1 the General Motor Car Company, agents for the Lozier in Philadelphia, will remove to the new building at 227-229 North Broad street.

Havoline Oil.—T. E. Hamilton has opened a salesroom on Boylston street, Boston, Mass., and will handle Havoline oils exclusively.

PERSONAL TRADE MENTION.

James E. Murray, secretary of the New York Sporting Goods Company, 17 Warren street, New York, has returned from a two-months' vacation in New Hampshire. He will be pleased to have manufacturers of accessories send 1909 quotations for the company's new catalog.

Robert Morton, who has been acting as head inspector and tester for the Pullman Company, of York, Pa., will in the future be attached to the staff of the Keystone Motor Car Company, and will look after the Pullman interests in Harrisburg.

F. A. Babcock, Jr., has succeeded C. M. Atterbury as manager of the Chicago branch of the Babcock Electric Carriage Company, 1330 Michigan avenue. Mr. Babcock has started on a tour of inspection of the various agencies in his district, covering the whole distance in a Babcock.

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